APR 15 1918.

NOTICE TO READER
When you finish reading this issue, place a one cent-stamp on this notice, hand same to any postal employe, and it will be placed in the hands of our soldiers or sailors destined to proceed over-seas. NO WRAPPING—NO ADDRESS
A. S. Burleson, Postmaster-General, U. S. A.

AMERICAN ARTISAN and Hardware Record

VOL. 75. No. 15. CHICAGO, APRIL 13, 1918. $2.00 Per Year.

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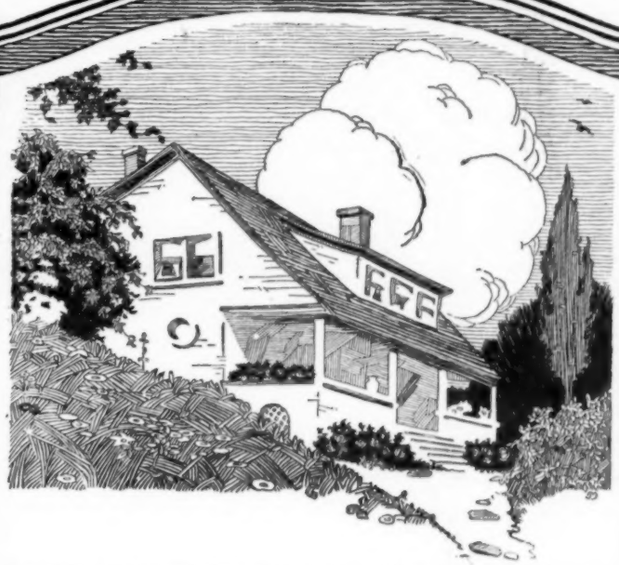


SECURITY IN SPITE OF EXPOSURE

As a protective sheathing for house walls, BERMICO counteracts upon all sorts of weather at all times of the year.

BERMICO

offers security in spite of exposure while other papers are proving the worse for wear.

The comfort to be gotten out of a BERMICO sheathed house makes itself felt beyond the enclosed walls. Architect and contractor and builder and hardware-man each profit in their own way as much as the houseowner does in his.

We shall be glad to send you complete information upon request

BROWN COMPANY
Founded 1852
PORTLAND, MAINE

ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS. 52 and 53.

QUICK MEAL

OIL STOVES

The ORIGINAL GLASS FOUNT OIL STOVES

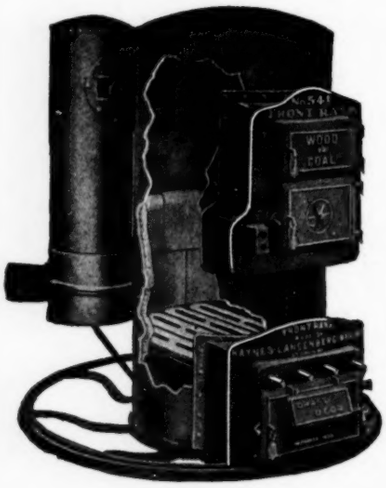
RINGEN STOVE CO.
DIV. OF AMERICAN STOVE CO.
ST. LOUIS, MO.

BURNERS ARE EASY TO RE-WICK
CHIMNEYS ARE PORCELAIN ENAMELED
NO RUST - EASY TO CLEAN

SAN FRANCISCO. CAL.
715 INDIANA ST.

The FRONT RANK
TRADE NAME REGISTERED

Steel Furnace



sells best, serves best and satisfies best, because it **Conserves Fuel** by reason of its

Longer Fire Travel

and larger radiating surface. The FRONT RANK gets the biggest percentage of heat value out of the fuel; uses any kind of fuel; is so simply and strongly built it stays in order; automatically ventilates while heating the rooms; automatically humidifies the warm air, and so pleases customers that every one of them becomes a walking advertisement for the FRONT RANK Steel Furnace.

If you are not handling the FRONT RANK *write us today for liberal terms*

Good bye! We're going home FRONT RANK is too hot for us.

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ESTABLISHED 1880
Representative of
The Hardware, Stove, Sheet Metal, and Warm Air Heating and Ventilating Interests
PUBLISHED EVERY SATURDAY

AMERICAN ARTISAN and Hardware Record

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VOL. 75. No. 15. CHICAGO, APRIL 13, 1918. $2.00 Per Year.

Announces Moving of Its Offices.

FOR THE PURPOSE of securing greater convenience of location, the offices of AMERICAN ARTISAN AND HARDWARE RECORD have been moved to the Barnheisel Building, 616 to 622 South Michigan Avenue, Chicago, Illinois. The new headquarters are situated just north of the famous Blackstone Hotel and are three blocks nearer to the center of the city. Visitors are welcome to the new offices and they will find themselves in the heart of the exclusive shopping district of Chicago and within easy walking distance of the wholesale industrial markets. Many places of interest to out-of-town merchants are in the immediate neighborhood, including the Art Institute and Grant Park on the lake front.

The Worth of Ideals.

DEMOCRACY, or the rule of the people by the people for the people, is the heritage of all the foregoing hopes and struggles and sacrifices of humanity. It represents centuries of aspiration and longing. It is the culmination of ages of social evolution. Crystallized in the ideal of democracy are the values for which we as a nation are spending our substance and pouring out the blood of our sons. They are values distilled out of the arteries and nerves of the race through countless years of striving toward freedom; and they constitute the most priceless inheritance from our ancestors.

In this day of war, these values are the only genuine values worthy of our consideration. Shall we pass what we have received of them down unimpaired, and with contributions of our own? Destruction of property is of no significance, a check to material progress is nothing, the erection of new brick or steel buildings can wait—although if that is a consideration this country was never making industrial progress as fast as at this time, because it is working under stimulus and is more receptive than ever to new ideas.

Ideas, at last, are the only thing that endure. The wealth inherited from the past is soon torn down or burned to be rid of it. This is one of the great crises of the world's history, a period which if nobly borne will stand out through all time for the enlightenment and inspiration of mankind. How we bear ourselves toward the issues involved, rather than how much money is spent or how many lives it costs, will be the matter of concern to our children's children. What citizen of Holland today deplores the cost of the glorious struggle, covering nearly three generations of almost continuous warfare, which established her liberties and did so much to advance the cause of Liberty throughout the world?

The people of Holland might have had peace to pursue the trade and industries in which they were so marvelously proficient, if only they had been satisfied not to contend for certain rights and beliefs, but from generation to generation they rejected peace on those terms. Moreover, their history indicates that the proficiency and success which they attained in the arts and trades were due to that same vigor and independence of mind which led them to contend for their liberties against almost hopeless odds. The relationship is vital. Without the character to fight for ideals there is no foundation for success of any kind.

There is no similarity between the situation of little Holland in her great struggle and that of the United States today, as regards resources and the chances of victory, but in that willingness to fight for ideals we believe the people of this country will not be found wanting. They have the strength to make a certainty of the outcome when that strength is fully exerted. We have not made progress as fast as we might or should, but the present situation on the war-front will arouse the country as nothing else could.

We have not as individuals appreciated our relations to the task. The Secretary of the Treasury announces that disbursements in this fiscal year will fall far below what was expected, because the war work is behind, and it is behind because the prosperity of the country has placed demands upon the industries which together with the war-work could not be met. The lesson is plain. The labor supply and industrial capacity of the country must be devoted far more effectively and completely to the Government's needs.

Win The War.

HISTORY SHOWS that wars are fought, won, and paid for out of increased production, coupled with savings. During the past year the American people have set a new record in their subscription to Government loans. As a Nation, however, we are still more or less under the impression that money saving alone suffices. That is not enough. A man who in normal times would be justified in buying three hats each year will in war times probably have to get along with two. The hat maker will manufacture the three hats just the same, but one of them will be sent to South America in exchange for rubber with which to make army truck tires, or nitrate to make high explosives. The whole basis of foreign trade is rearranged to give other coun-

tries things which we can make that are unobtainable from the countries with which they formerly traded, so that we may import in return raw materials vitally necessary for war. The demands of the Army and Navy for weapons, clothing, food, and every sort of supplies, coupled with destruction and shortage of wool, cotton, metals, chemicals, and other raw materials, necessitate a careful rearrangement of personal and individual consumption and a speeding up of production.

England has been most efficient in working these transformations. And today all her production, distribution, and consumption are absolutely on the war basis. New furniture is no longer made—secondhand pianos in England are worth more than was paid for them new. Walking sticks, jewelry, builders' hardware, and many other personal essentials and everyday comforts of normal life have been curtailed or eliminated. There came a time when the British Government stopped the manufacture of umbrellas—not because rain no longer falls in the British Isles, but because it was known that sufficient umbrellas were already in existence to see John Bull through the war, and because the umbrella makers were needed in the manufacture of airplane wings.

It is by saving and speeding up of this sort that wars are won, and in the grim task which we now have ahead of us we are going to realize it and tackle the job, concentrating all our energy upon the military organization needed to win the war by actual fighting on the western front. Stories of German hunger and every other side issue must give way before this supreme task.

The Trade Acceptance.

TO THE MAN who believes in doing business upon sound principles and in definite terms, the arguments favoring the Trade Acceptance in place of the open book account are conclusive in their logic. In the first place, the execution of an acceptance converts the account into a negotiable instrument, which as a definite, tangible asset is much superior to a mere book charge. It closes the original transaction, and while it does not prevent a buyer from making subsequent representations as to errors in an invoice or defects in the quality of goods, it brings about a prompt disposition of such questions, as in case where a cash discount is taken.

In the second place, an acceptance is a promise to pay on a date certain, and as the paper is likely to be in other hands at maturity, it is understood that punctual payment is expected.

If there are good reasons why the buyer cannot meet his acceptance at the due date, he can present them to the seller and arrange with the latter to take up the paper, possibly issuing a renewal. That this is not so easy a method of getting more time as simply to neglect the payment of a book account, is to be counted in favor of the acceptance. Punctuality is a virtue in the business world, and every practice which tends to cultivate it is to be encouraged. A vast amount of business is done in this country upon credit, and the granting of credit for definite periods is an entirely legitimate business practice, but it would be greatly to the advantage of both buyers and sellers if there was stronger insistence upon prompt payment of debts when they fall due.

The objection is sometimes made that the greater ease of financing purchases by means of the acceptance may encourage over-buying, but there is reason to believe that the greater obligation to make prompt payment will be an effective restraint upon both sellers and buyers.

Over and above the fact that the conversion of book accounts into acceptances will promote sound business methods there is the larger consideration that it will more effectively utilize the credit resources of the country and tend to separate the banking function from the merchandising function. After a sale has been effected to a responsible party, and nothing remains of the transaction but a short credit, there is public economy in utilizing bank credit. It is the business of banks to trade in credit as it is the business of merchants to trade in goods and the banking system is a reservoir in which the temporarily idle credits of the country accumulate. Among the thousands of banks there are always many who do not have use for all their funds locally. The Federal Reserve Board as a deliberate policy has made the acceptance a preferred form of credit.

The fact that the Federal reserve banks will rediscount acceptances at the lowest rates makes them a most desirable investment for member banks, and there is reason to believe that there will be a steadily widening market for them as all the advantages from their use become generally understood. They carry on their face the evidence which the reserve banks require as to the commercial character of paper offered for rediscount, and this is calculated to give them great mobility. As the supply of well-known names on the market increases, trading will increase, and banks may be expected to resort to this class of outside paper to take up their idle funds. The efforts of the Federal reserve authorities to build up a broad discount market are deserving of the support of business men and bankers. They have given the lead, provided the outlet for paper of this class, and the business interests of the country should co-operate.

Of course the fact that paper is executed in this form will not obviate the necessity for close attention to credit conditions and a careful scrutiny of names. It will not make good risks of poor names, but it will give greater fluidity to sound credit, and in that way help the country to finance its needs in the period of financial strain through which we are now passing.

The acceptance is not urged as a substitute for the cash discount. No doubt it is desirable to have the buyer, where practicable, finance himself entirely independent of the seller, but in a country where so large a volume of trade is carried on upon open accounts it will not do to say that no improvement short of the complete adoption of cash payments is worth while. There is a large field in which credit conditions can be improved by using the names of seller and buyer together. Both will be benefited, and both will be prompted to more scrupulous attention to sound business methods in order to protect their credit.

RANDOM NOTES AND SKETCHES.

By Sidney Arnold.

There is always time enough for courtesy. No matter how busy one may be, no reason can be found for neglecting to be courteous any more than for neglecting to breathe. Courtesy is not an ornament of life. It is an essential. Its habitual absence spells the barbarian. Both from the point of view of business service and of social decency, courtesy is indispensable.

* * *

J. Fletcher Barber of Boston, Massachusetts, formerly president National Retail Hardware Association, was a prominent delegate to the convention of the Chamber of Commerce of the United States which met this week in Chicago.

* * *

My friend William A. Webster, of Chicago, Commissioner National Association of Automobile Accessory Jobbers, says that it is important, though not always comforting, to know where the other fellow stands. He illustrates the idea with the following story:

A man who was continually losing his collar-button while dressing complained to his wife about it. With an ingenuity born of the use of hairpins, she told him to hold his collar-button in his mouth.

The next morning she was startled by an unusual commotion.

"What's the matter?" she asked anxiously.

"I've swallowed the collar-button," said the man.

"Well," responded his wife, "there's one comfort: for once in your life you know where it is."

* * *

A Chicago retail hardware dealer, Charles W. Johnson, 2948 Diversey avenue, sets aside a percentage of the income of his store each month to buy tobacco for our sailors and soldiers. I like the friendliness of the idea. A good smoke will help comfort our lads in the trenches and in the U-boat hunts on the stormy seas.

* * *

Rudolph J. Jobst of Peoria, the newly elected president of the Master Sheet Metal Contractors' Association of Illinois, says that the only way some men ever learn the value of organization is through a succession of jolts and hard knocks. In this connection he relates this story:

A Pike County woman indited a note to the teacher concerning the punishment of her young hopeful. The note ran thus:

"Dear Miss Smith: You rite me about whippin' Sammy. I hereby give you permission to beat him up any time it is necessary to learn his lesson. He is just like his father—you have to learn him with a club. Pound nolege into him. I want him to get it—and don't pay no attention to what his father says—I'll handle him."

* * *

Frank T. Reuter, of Kankakee, Illinois, treasurer Master Sheet Metal Contractors' Association of Illinois, told a good story about the junior partner of a Wall Street firm who was indisposed and the senior partner was calling him up every two or three minutes.

"Why do you telephone Bob so often?" inquired a friend. "Is he seriously ill?"

"Oh, no," was the reply, "but his temperature fluctuates considerably and some of our customers are speculating on the fluctuations."

* * *

One day last week my Old Guard friend, A. R. Sisson of Chattanooga, Tennessee, saw a big red touring car strike a pedestrian and roll him in the mud. The owner of the car ran back, greatly excited, after stopping his car.

"Is he dead?" my friend Sisson heard him ask in tones of deep anxiety of the doctor who chanced to attend the victim.

"Oh, no!" replied the medical man cheerfully. "He's not dead; he's merely run down."

* * *

Pierpont Noyes, of the Oneida Community, Limited, Oneida, New York, tells of a milk dealer in New York, who was consulted in his early days by a friend in the milk trade:

"I've been roped in for two tickets to a masquerade ball," the friend grumbled, "but I don't think I'll go."

"Why not?" asked the dealer.

"Oh, such things ain't in my line," said the friend. "A milkman at a fancy dress ball! No, no—most inappropriate."

"Inappropriate nothing," said the dealer, "put on a pair of pumps, man, and go as a waterfall."

* * *

W. F. Waller, city sales manager of Hibbard, Spencer, Bartlett & Company, Chicago, Illinois, says that one of his firm's traveling representatives was in the south not long ago and visited a Kentucky courtroom while a case was being tried. The defendant had been accused of selling adulterated liquor, and some whisky was produced as evidence. This was handed over to the jury to assist in their deliberations.

After about an hour's absence the jurymen filed into court, whereupon his honor asked:

"Has the jury agreed on a verdict?"

"No, your honor," returned the foreman, "and before we do, we should like to have some more evidence."

* * *

Dreaming and planning far ahead of the present are not always a safe procedure for persons who lack the power of concentration. It is only after one has acquired the habit of bringing all one's faculties to bear upon the task in hand that it is wise to allow one's self to indulge in visions of the morrow. Hence for most of us the current day is

What Counts.

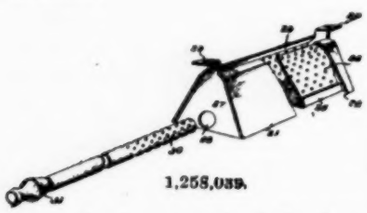
It isn't what you mean to do a week ahead,
It isn't what you know you'll gain
When all annoyances have fled;
It isn't what you dreamed and planned—
Such hopes are but a phantom band—
The day's work counts.

The day's work counts—
It isn't much,
The gain of those few painful hours;
But be content if there is shown
Some product of those wondrous powers
Which guide each mind, uphold each hand,
Strive with the best at your command—
The day's work counts.

UP TO THE MINUTE NEWS SIFTINGS

OBTAINS PATENT FOR GASOLENE BURNER.

Under number 1,258,039, United States patent rights have been granted to Herman Parpert, Edward Boekenkamp and Louis Stockstrom of St. Louis, Missouri, assignors to the American Stove Company of St. Louis, Missouri, for a gasolene burner described herewith:



A heater for gasolene burners comprising an inverted V-shaped housing having an open lower end, a plate extending across the lower end of the housing and having obliquely arranged perforated walls extending parallel with the walls of the housing and spaced therefrom, the upper end of the housing having an elongated slot extending across the face thereof, the end of the housing having an opening, a tubular torch removably supported within the opening and having a handle at its outer end for removing the same from the housing and also serving as a plug for the torch and means carried by the ends of the housing for securing the same to the lower face of the air-tube of the evaporator of a burner.

TELLS WHAT LIBERTY BOND DOES.

When a person buys a Liberty Bond, he knows that his purchase will help the Government and help the boys who do the fighting. However, in many cases he does not know exactly how it will render this aid. Therefore, in order to give a definite idea of how the money is used which the citizen loans to the Government through his purchase of Liberty Bonds we herewith present the following figures:

One $50 bond will buy trench knives for a rifle company, or 23 hand grenades, or 14 rifle grenades, or 37 cases of surgical instruments for enlisted men's belts, or 10 cases of surgical instruments for officers' belts.

A $100 bond will clothe a soldier, or feed a soldier for eight months, or purchase 5 rifles or 30 rifle grenades, or 43 hand grenades, or 25 pounds of ether, or 145 hot-water bags, or 2,000 surgical needles.

A $100 and a $50 bond will clothe and equip an Infantry soldier for service overseas, or feed a soldier for a year.

Two $100 bonds will purchase a horse or mule for Calvary, Artillery, or other service.

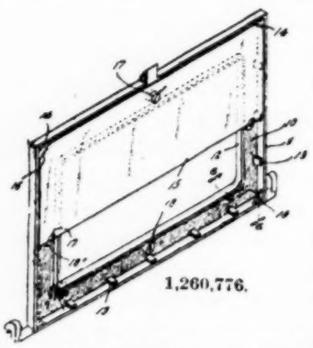
Three $100 bonds will clothe a soldier and feed him for one year in France, or buy a motorcycle for a machine-gun company.

Four $100 bonds will buy an X-ray outfit.

One $500 bond will supply bicycles for the headquarters company of an Infantry regiment.

OBTAINS PATENT FOR STOVE DOOR.

Under number 1,260,776, United States patent rights have been granted to George B. Jones, Kokomo, Indiana, assignor to The Globe Stove and Range Company, Kokomo, Indiana, for a stove door and particularly oven door for stoves described in the following:



A stove door, comprising a cast metal frame which has inner and outer rearwardly projecting flanges and other flanges which project inwardly from the corners formed by the outer flange, a flat back plate of sheet metal which fits against the back of the cast frame by resting against the rear edge of the inner flange and corners which extend under said corner flanges of the frame, and means for rigidly fastening intermediate portions of said back plate to said frame.

LANDLORD LEARNS WHY HIS FLATS WERE SO HARD TO RENT.

"That's the sixteenth woman who looked at those flats today without signing a lease," said Corliss Giles, owner of the Princess Apartments in tones of supreme disgust.

"If you had taken my advice," said his wife, Frances, "you wouldn't have any trouble in renting any one of the flats. You——"

"Talk is cheap," he interrupted, "it takes money to follow a woman's advice. My bank account shows——"

"Yes, your bank account makes a sickly showing," she interposed, "not because you followed any woman's advice, but because you are so pig-headed you think you know it all. You would rather lose two or three months' rent than spend a few dollars in making the flats presentable."

"A few dollars nothing! It would take a whole year's rent to fix the flats up to suit the exorbitant demands of the flat-hunters who were here today."

"Nothing of the sort!" Frances retorted. "I know woman's nature, if you don't. The majority of the women who looked at the flats today liked their arrangement and conveniences, but every last one of them was disgusted with the shabby appearance of the radiators."

A crafty look came into her eyes. Suddenly she perceived the futility of argument. She knew a better way to persuade him to his own good. Accordingly she shifted her tactics and, with an air of humility, declared:

"Really, Corliss, I ought not to have spoken so sharply to you. You poor boy, you have so much to worry you that if you were not the best man in the world, you wouldn't have a shred of patience left. I know that tenants are unreasonable. They want most of the rent money back in all kinds of extras and decorations. It is really hardly worth while bothering with renting property."

"Still," she continued, "there must be some way to rent these flats without spending a lot of money on decoration. I'm sure that if the radiators were touched up that there wouldn't be any more trouble in renting."

"I guess you are right, honey," he conceded, "but that would cost a good deal of money because painters' wages are pretty high since the war broke out."

"Oh, you wouldn't have to hire a painter," she explained. "Any amateur could do the job with the right kind of enamel. I know just the thing for brightening up those radiators. It's the Peerless Aluminum Enamel made by the Nickel Plate Stove Polish Company, 358 East Illinois Street, Chicago, Illinois. Emma Salvatore's husband uses it all the time around their place. It's wonderful how it brightens up exposed plumbing, gas fixtures, steam pipes, stove trimmings, sewing machines, and dozens of other things around the house. It gives a bright enamel finish, with a frosted silver effect and can be washed the same as nickel."

Screw Top Containing Powder Ingredient of Peerless Aluminum Enamel.

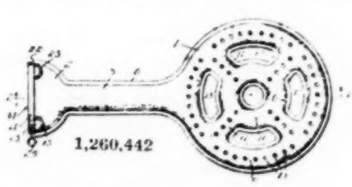
Main Container Holding Liquid Ingredient of Peerless Aluminum Enamel.

"All right, honey," said Corliss, "I'll get a can of it and try it out. If it does what you say, I guess our troubles are over."

"Oh, I'm sure it will," she asserted confidently, "because I've seen the beautiful effects it produces in Emma's place."

ASSIGNS GAS BURNER PATENT.

George E. Pickup, Newark, Ohio, assignor to The Wehrle Company, Newark, Ohio, has obtained United States patent rights, under number 1,260,442, for a gas burner described in the following:



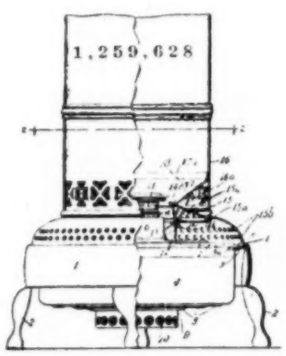
A gas burner having, in combination, a burner head, a mixing bowl, and a connecting supply conduit, formed from two substantially similar sheet metal sections having outwardly protruding edges secured together to form a gas tight joint, said mixing bowl having valve means for admitting air thereinto including a plate having an inturned peripheral flange fitting over the ends of the sections forming the bowl, the outwardly protruding edges of the joined sections being cut away adjacent the end of the mixing bowl to enable the peripheral flange on said plate to be slipped over the end of the bowl.

THERE ARE MANY WAYS TO SERVE.

President Woodrow Wilson declares that it is evident to every thinking man that our industry on the farms, in the shipyards, in the mines, in the factories, must be made more prolific and more efficient than ever, and that they must be more economically managed and better adapted to the particular requirements of our task than they have been; and what I want to say is that the men and the women who devote their thought and their energy to these things will be serving the country and conducting the fight for peace and freedom just as truly and just as effectively as the men on the battlefield or in the trenches.

ACQUIRES PATENT FOR OIL STOVE.

William R. Jeavons and Arnold R. Whittaker, Cleveland, Ohio, have procured United States patent rights, under number 1,259,628, for an oil stove described herewith:



The combination of a shell or casing inclosing a space for combustion, a liquid fuel reservoir below the said combustion space and an imperforate diaphragm within the casing interposed between the combustion space and the reservoir, a cover extending over the said reservoir below the said diaphragm and provided with openings for the passage of air therethrough to a space above it and below the diaphragm said cover being spaced from the said reservoir so as to form a passage for the air between it and said reservoir, and to the said openings.

RELIABLE STOVE BOLTS AND RIVETS STRENGTHEN DEALER'S TRADE.

No dealer in stoves who is thoroughly alive to the profitable importance of service in his business deliberately neglects the item of stove repairs. While it is true that the net gains from such work are hardly worth considering in comparison with other more lucrative use of the dealers time, nevertheless the indirect returns constitute a valuable element of the dealer's income.

In order to make such a service valuable, it is essential that the materials employed in the repairs be reliable and serviceable. The stove bolts, stove rods, and stove rivets used must be of the kind which will give lasting satisfaction. In this connection, it is said that the stove bolts, rods, and rivets made by the Kirk-Latty Manufacturing Company of Cleveland, Ohio, are of exceptional quality and workmanship. A postal card request to the Company will bring a catalog with complete details.

THE WEEK'S HARDWARE RECORD

Of Interest to Manufacturer, Jobber and Retailer

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 47 to 51 inclusive.

The Logan Hardware and Lumber Company at Gillette, Wyoming, has been incorporated with a capital stock of $30,000.

The Web Wire Works, New Brunswick, New Jersey, has completed plans for a two story, 35x45 foot addition to its plant.

Smith Brothers' Hardware Company, San Antonio, Texas, has been incorporated with a capital stock of $30,000 by George H. Smith, G. T. Howard, Jr., and S. J. Smith.

The Simonds Manufacturing Company, Fitchburg, Massachusetts, manufacturers of saws and machine knives, are having plans made for a brick, mill construction, three story and basement, 140x50 foot addition to its factory.

The Madison Hardware Specialty Company, Madison, Wisconsin, has been organized with a capital stock of $10,000 by a number of retail hardware dealers to engage in the wholesale hardware trade. The incorporators are Louis Hirsig, V. S. Kubly and T. E. Wiedenbeck. A large warehouse located on the Illinois Central tracks in West Madison has been leased and offices will be opened on the second floor of the Wolff, Kubly and Hirsig hardware store on South Pinckney Street. The retail and wholesale business will be kept entirely independent.

GOVERNMENT CONDEMNS THE TREASON OF HIDDEN GOLD.

The Bureau of Publicity of the United States Treasury Department condemns the hoarding and withdrawal of gold from circulation in words which leave no room for doubt of their meaning. This is not a time for mincing phrases. Hence this talk straight from the shoulder:

There are a few people so timid and selfish that they are hiding the yellow metal where they think it is safe from fire, robbers and from requisition by the Government!

What folly! As if anything could be safe when our Government is in danger! As if anything could be valuable when Liberty and Independence are overthrown!

Every dollar of American gold that is hidden away where the American Government cannot find it is a traitor dollar, because it is holding up ten dollars' worth of war preparation! It is helping Hohenzollern!

Every American dollar that is not brought out into the light and laid on the altar of Liberty, is in reality a handful of German marks treasonably aiding in the defeat of American democracy and in the overthrow of American Liberty and Independence.

"Giving aid and comfort to the enemy" is the capital crime of all crimes. That's treason. Hiding money away from the United States Government in times of war is the most cowardly possible way to give aid and comfort to the enemies of America.

Hiding American gold is the same as wishing for American defeat. It is the same as sending powder and lead to Germany. It is the same as stabbing our Allies in the back. It is a cowardly treason!

Bring out every dollar of gold, every dollar of silver, every unusued ornament of platinum or other precious metal and let the Government use it for the winning of the world's greatest victory.

Invest every cent you can spare from your living in *Liberty Loan Bonds*. The Government is the safest borrower in the world. Uncle Sam's promise to repay you is backed up with wealth by the hundred billions. The Government will pay you 4¼ per cent interest, too.

GIVES ADVICE ON THE LICENSE LAW.

There are some users of and dealers in explosives who still do not fully understand the Government law requiring a license for explosives. For their benefit E. I. du Pont de Nemours and Company, Wilmington, Delaware, gives the following information and advice:

Before a dealer can sell any explosives, he must have a license, and before a customer can purchase any explosives either from a dealer or a manufacturer, he must have a license. Before a customer can secure delivery from a railroad company of any explosives shipped to him, he must show the railroad agent his license.

This license matter is, however, a very simple proposition. It need not deter any one from buying or using explosives if his motives are honest. The license costs only twenty-five cents and can readily be obtained from licensing agents located in every state and every county. As a general thing, county clerks are the proper persons from whom licenses can be secured.

However, any one having any difficulty in locating a licensing agent can obtain the name and address of the nearest agent by writing Bureau of Mines, Explosives Division, Washington, D. C. Dealers stocking explosives will, of course, be able to give customers addresses of licensing agents.

In order to save time, it will be well for any person desiring to purchase explosives to obtain his license before going to his dealer to place an order. If he intends ordering direct from a manufacturer, he must necessarily have his license before ordering because a certified copy of the license which will be furnished by the licensing agent must accompany his order.

GREAT PATRIOTIC MEETING IS HELD BY CHAMBER OF COMMERCE OF UNITED STATES.

A four-day convention of the Chamber of Commerce of the United States was held April 9, 10, 11, and 12, 1918, in the Auditorium Theater, Chicago, Illinois, which reached a high plane of patriotism and placed the business men of this country in the forefront of service to our Government. The proceedings of the meeting would require an entire issue of AMERICAN ARTISAN AND HARDWARE RECORD for their report in full. The hardware industry was ably and successfully represented in the deliberations of the convention by Wallace D. Simmons, president Simmons Hardware Company of St. Louis, Missouri, chairman of the Committee on War Finance of the Chamber of Commerce of the United States. A feature of exceptional business interest was the illuminating address on Trade Acceptances delivered by Lewis E. Pierson of the Irving National Bank, New York City. He spoke in part as follows:

Advantages of Trade Acceptances.

By Lewis E. Pierson of New York City.

It is not in the least strange that the entire business of the country has not yet decided that the Trade Acceptance method is necessary either to national prosperity or to the success of the average business man. Nothing short of a steady diet of miracles would justify the expectation of progress at any such rate. The history of commercial development throughout the world shows that radical changes in the business methods of a country, even though justified by unmistakable precedent in other countries, come slowly and require serious and continued effort.

Many Do Not Know About Trade Acceptances.

Great numbers of American business men still are uninformed concerning the details of the Trade Acceptance method and, therefore, unconvinced as to its merit. Others honestly believe that conditions within their particular business or industry are such as to make this method poorly suited to their purpose. Still others, those of an ultra-conservative type, while conceding merit to this method, are not disposed to disturb an existing business condition which in the past has appeared to them sufficient for their purposes.

In our investigation of the national business situation, with particular reference to commercial credit, the most vitally serious weakness discovered appears in connection with the practices which have grown up under the open account method, and it is to this weakness and to the Trade Acceptance method as a means whereby it may be corrected that we call the earnest attention of this body.

Defects of Open Accounts.

It is useless to endeavor to discover any merit in this open account method. It is wrong, vitally wrong—it is almost wholly unsound. It came into existence not as the result of normal business development, but through the existence of defects and unfortunate tendencies, which, during a crisis in our national history, for a time exercised a dominating and most unfortunate influence upon American business.

It finds no justification in any legitimate business condition we have been able to discover during the term of our investigation, not even in necessity, as there is no purpose which possibly can be served by this method which cannot be served much more satisfactorily by other available methods, principally the Trade Acceptance method.

Open Account Method Is Wasteful.

The open account method is weak, not only because it fails to serve properly the purposes for which it was created—namely, to express a commercial obligation—but also, and perhaps more seriously, because it has tended towards the development in perfectly honest men of habits of carelessness, lack of caution, indifference, business recklessness, not in the least easy to reconcile with the theory of commercial honesty.

Under this method the buyer of merchandise promises to pay. This is not a written promise, at best it is only verbal, and in the great majority of cases does not go beyond the form of a mere understanding, which ordinarily covers not all but only a few of the details entering into the transaction.

Uncertainty as to Prompt Payment.

The merchandise transaction from which the obligation grows remains wide open until the debt is fully paid. If the buyer desires to return a part of the merchandise delivered, or to cancel orders—and unfortunately he does so desire all too frequently—the burden of proving correctness of deliveries rests not upon the buyer who, naturally, would raise the point, but upon the perhaps entirely blameless seller, who wishes only to receive payment for his goods.

Gratuitous Banking Service.

Under the practices and customs which have developed from this open account method, the seller of merchandise actually performs a gratuitous banking service for the buyer, carrying the obligation upon his books to maturity and frequently well beyond without receiving credit for any generosity outside what has come to be considered as incident to the business.

But most serious of all the evidence we have discovered against the open account method is the fact that a surprisingly large percentage of the obligations expressed in this form are not paid promptly at maturity.

Possibly this is due to a tendency from which even the best of men are not free, to select the line of least resistance; to do the things first, the need of doing which appears most conspicuously, and to put off until more convenient time, performance upon obligations which in their form suggest the ideas of ease and latitude.

Delays in Settling Open Accounts.

But in any event, the fact is that these open account obligations are not paid with that degree of promptness which is indispensable in what we have come to recognize as sound and careful business. Thirty-day obligations are allowed to run to 35 or 40 days; and 60-day obligations to 75 or 80 days; and longer obligations are similarly treated.

In this way the proper balance of the commercial situation is seriously disturbed. Accurate calculation as to the rate at which monies due will come in becomes impossible. As a result business men are unable to estimate their requirements for any particular period, and underborrowing and its annoyances, or over-borrowing with its unnecessary waste, are natural and usual things.

Locks Up Capital in Debts.

Another weakness inherent in the open account method and one, the seriousness of which should require no comment in these times, is that the unavoidable tendency of this method is against liquidity of commercial credit. These open accounts as regards the usability of a large portion of the value expressed are frozen; and value running into billions of dollars is tied up at a time when the plainly indicated needs of the nation demand that it be kept in fluid, available, and easily usable form.

Advantage of Trade Acceptance to Seller.

To the seller of merchandise we would say that the Trade Acceptance is calculated to protect his proper interests to the fullest extent—that it carries with it a definite promise to pay an acknowledgment of the correctness of deliveries—a shorter term of credit—greater flexibility of assets—better facilities for collection—a logical and improved relationship with customers—and practical relief from expensive and burdensome practices which have grown up under the open account method.

Advantage to Buyer.

To the buyer of merchandise we would say that the Trade Acceptance operates to his distinct benefit—that it gives to his classification as a preferred customer, one who serves notice upon the business world of his disposition and ability to meet his obligations promptly at maturity—that it gives to him greater independence of action—that it provides an effecive check against overbuying and overborrowing—that it tends to establish his standing with banks and in the discount market—and provides for him a substantially increased field of operations.

Benefits the Entire Nation.

To the nation, and to all those properly interested in protecting its interests in the present gravest emergency in history, we would say that the development of the Trade Acceptance method in American business not only is important and urgent, but indispensable. If we are to win this war and protect the national interest in the world commercial contest which will follow, we must put the business of the nation upon a sounder basis. Not only must our soldiers and sailors fight and suffer, and citizens of all classes serve and sacrifice, but the American business man, in his particular field of service, must so direct his energies that this great resource entrusted to his keeping—the commercial credit of the nation—will be kept in such a condition of fluidity and usability that to the fullest possible extent it will serve as an unshakable foundation upon which can be based the greatest effort of the greatest nation the world has known.

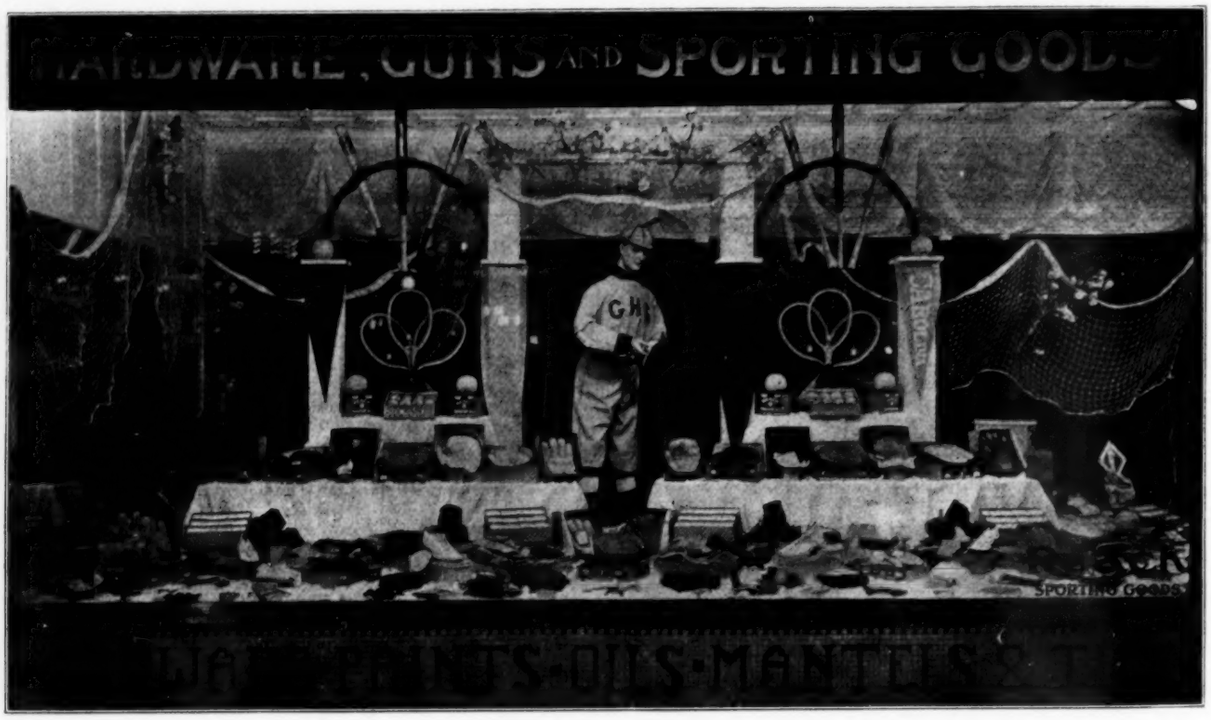
Are you hoarding your money or are you a good patriot, keeping it in circulation and helping business? If business should take a turn for the bad it will be because people are not spending the money they should.

EXHIBITS IN AMERICAN ARTISAN WINDOW DISPLAY CONTEST

BASEBALL WINDOW DISPLAY ATTRACTS LARGE CROWDS.

At this time of the year, when the baseball players are assuming the position of headliners on the stage of sports, the value of the window display shown herewith can best be appreciated. Baseball is known as our national pastime. It is not necessary for us to go through a long search in order to find illustrations bearing out the truth of this statement. One of the first things that the boys of this country learn in the line of athletics is the game of baseball. The youngsters play the game as if their lives depended on it, and they shout just as joyously over winning a game, as an army after winning a great and decisive battle. If they lose, their countenances are as happy and cheerful as those of pall bearers. The popularity of the game with the youth of the country shows that the Americans (males, at least) are actually born with a love for baseball. Another good illustration is to be found in the great honors given to the winners of the baseball championship. Banquets are tendered to them. They are offered contracts for enormous sums to go in vaudeville and just tell a few jokes and stories.

We could continue giving such examples almost indefinitely. But it is not our purpose to dwell for any great length on the widespread popularity of the game. We give these illustrations merely to show the possibilities for making large sales by arranging an attractive window display of baseball goods, such as the one shown herewith. This exhibit was arranged by Walter Smith for the Odell Hardware Company, Greensboro, North Carolina, and was awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. The display attracted large crowds of baseball fans who bought gloves, balls, bats, masks, and baseball slippers in great quantities. The figure of the baseball player in the center of the display was particularly effective. It put a touch of realism in the exhibit and made the observer want to get into the game at once. The background was covered with green rep cloth, above which was a light blue and white cheese cloth. The arches, shelving, and floor were covered with white cloth. Tennis nets, rackets, and balls were placed in the background of the display. Above the center arch and in the net were placed branches of Japanese apple blossoms. The display was very neatly and skilfully arranged. The arranger is to be complimented for the planning of the exhibit and the company praised for its foresight in contriving such a fine business proposition. A highly commendable feature of this display was the liberal use of price-tags.



Baseball Window Display, Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. Arranged by Walter Smith, for the Odell Hardware Company, Greensboro, North Carolina.

Study the successful efforts of everyone you know to be successful legitimately, especially those in your own line.

SAYS AMERICAN CUTLERY HAS GOOD PROSPECTS IN CUBAN MARKET.

Writing from Cienfuegos, Cuba, concerning possibilities for American hardware, United States Consul Charles S. Winans says that it has been noted that by far the greater part of the cutlery used in the hotels, barber shops, households, etc., of this district are German products and bear the trade-marks of Solingen and Remscheid firms. The reason for this apparent predominance of German cutlery will probably be found in the thoroughly organized foreign sales departments, the more liberal credits extended by the German manufacturer, and, of course, the very low prices.

For obvious reasons cutlery used in Cuba is at present almost exclusively purchased in the United States, and so long as the war lasts the United States will no doubt continue to be the chief source of supply. The efforts of American cutlery manufacturers, however, should be directed toward retaining this trade after the war, and it is considered not impossible for them to do so.

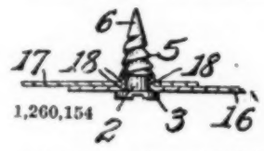
German manufacturers and exporters will likely make every effort to regain the lost market, but owing to the great increase in the wages of German cutlery workers it is more than doubtful whether they will be in position to offer their wares at the former exceedingly low prices. Another feature is the absence in Germany of large accumulated supplies of cutlery that could possibly be "dumped" on the Latin American market after the termination of hostilities. All the Solingen and Remscheid factories have been almost exclusively engaged in the manufacture of war materials, and this fact, together with the lack of skilled workmen, owing to the large number of men called to the colors, the difficulty of obtaining certain supplies, such as mother-of-pearl, bone, and hartshorn, for the handles of certain cutlery products, the difficulty of procuring certain metals, such as brass and even iron and steel for other than military purposes, have made it impossible for the German manufacturer to lay aside a stock of goods against the end of the war.

There is apparently no prejudice against American cutlery in this market, and the more favorable credit and lower prices were no doubt the cardinal reasons for the more ready sale of the German product. The question as to whether American manufacturers can successfully retain the cutlery trade after the war seems to narrow down to a question of price or whether a possible American large-scale production can compete with the German "home worker" and cheaper labor. Wages in Germany, while they will hardly retain their present abnormal height, will not likely go back to their low prewar level. The average prewar wages of skilled German cutlery workers varied from 3 to 7 marks ($0.71 to $1.67) per day.

The customs tariff of Cuba allows a duty reduction of 30 per cent of the general rate on cutlery manufactured in the United States. There is transmitted a list of dealers in this district who sell cutlery and hardware, which list may be of interest to American cutlery manufacturers. The attention of manufacturers is called to the importance of addressing the listed firms in Spanish, the language of the country, thereby greatly facilitating negotiations and creating a closer commercial contact. A copy of the list referred to can be obtained at the Bureau of Foreign and Domestic Commerce or its district or co-operative offices by referring to file No. 99047.

ASSIGNS PATENT RIGHTS OF SCREW.

Edgar K. Day, Wheeling, West Virginia, assignor to the Whitaker-Glessner Company, Wheeling, West Virginia, has procured United States patent rights, under number 1,260,154, for a screw described in the following:



A screw for attaching metal plates, comprising a tapered body, a head, and a neck between said body and said head; said body having formed therein a spiral thread of approximately uniform depth throughout whereon a bur of gradually increasing size is adapted to be formed in the plates about said screw as the latter is advanced; one of the thread-defining walls being disposed substantially radially with respect to said body, and the other thread-defining wall being inclined toward said head; said neck being of less diameter than the adjacent end of said body whereby is formed an annular rearwardly-facing shoulder with which the plates received by said neck interlock; said neck also having a length in excess of the thickness of the plates to permit of the reception of said bur behind said shoulder.

PLEASES BOTH DEALER AND BUYER.

All dealers who sell sheathing paper know that the quality most demanded by the trade is endurance. The customers want paper that will not tear easily, paper that is extra strong. Next to that quality in importance is appearance. The user of sheathing paper does not want any ugly looking material because it will spoil the appearance of his house. But if the buyer does succeed in finding sheathing paper that combines the qualities of endurance and attractive appearance, he will not buy unless the price of the paper is reasonable in proportion to its value. Therefore, since these things are desired by the buyers, it is easy to see that sheathing paper possessing the two qualities mentioned, and capable of being sold at a fair price will be a profitable article for the dealer to handle. This is claimed by the Brown Company, formerly Berlin Mills Company, Portland, Maine, to be the secret of the success of its Bermico Builders' Sheathing Paper It is maintained by the company that dealers like to sell this paper because its self-evident superiority over ordinary papers makes it an easy seller; because it sells at a popular price, and because it gives unfailing satisfaction after it is sold. It is further averred that users prefer Bermico Sheathing Paper because it possesses the power of endurance, outlasting any building on which it is used; is attractive in appearance and is moderate in price. This paper comes in two weights to satisfy various requirements. Full particulars regarding this valuable selling proposition will be supplied by the Brown Company upon application.

GOVERNMENT CIVIL SERVICE ASKS AID OF AMERICAN ARTISAN.

The authorities at Washington are fully cognizant of the great influence exercised by the trade journals of this country. They recognize the effective power of publicity through such publications. Moreover, they know the spirit of patriotism which animates their pages and, consequently, appeal with confidence to them whenever there is need of their assistance. The following letter is glady published and its call is heartily endorsed and recommended to the attention of our readers, with the request that they render whatever aid they can to promote its purposes:

To AMERICAN ARTISAN AND HARDWARE RECORD:

The United States Civil Service Commission incloses herewith a copy of a poster announcement of the Government's need for stenographers and typewriters. The call for help of this class in Washington is practically without limit. Owing to the general demand, the Commission is having considerable difficulty in recruiting a sufficient number of qualified persons for these positions, and is conducting a nation-wide campaign to obtain applicants.

The Commission requests that you assist it in its effort by inserting in your publication free of charge a notice which shall include all or a suitable part of the information contained in the inclosed circular.

The Commission will appreciate your co-operation in its endeavor to recruit the civil service for war needs. It is perhaps unnecessary to say that an efficient civil service is as important as the armed forces in the prosecution of the war.

By direction of the Commission.

Very respectfully,

JOHN A. MCILHENNY,
President.

The poster to which reference is made in the foregoing letter is herewith appended:

United States Civil Service Examinations.
Stenographers and Typewriters Wanted.
Men and Women.

The United States Government is in urgent need of thousands of typewriter operators and stenographers and typewriters. All who pass examinations for the departments and offices at Washington, D. C., are assured of certification for appointment. It is the manifest duty of citizens with this special knowledge to use it at this time where it will be of most value to the Government. Women especially are urged to undertake this office work. Those who have not the required training are encouraged to undergo instruction at once.

Examinations for Departmental service, for both men and women, are held every Tuesday, in 450 of the principal cities of the United States, and applications may be filed with the Commission at Washington, D. C., at any time.

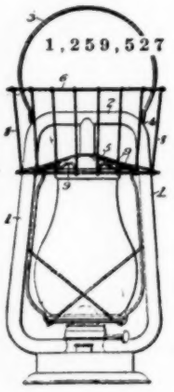
The entrance salary ranges from $1,000 to $1,200 a year. Advancement of capable employes to higher salaries is reasonably rapid.

Applicants must have reached their eighteenth birthday on the date of the examination.

For full information in regard to the scope and character of the examination and for application blanks address the United States Civil Service Commission, Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at Boston, Massachusetts; New York, New York; Philadelphia, Pennsylvania; Atlanta, Georgia; Cincinnati, Ohio; Chicago, Illinois; St. Paul, Minnesota; St. Louis, Missouri; New Orleans, Louisiana; Seattle, Washington; San Francisco, California; Honolulu, Hawaii; or San Juan, Porto Rico.

PATENTS A DEVICE FOR WARMING OR KEEPING LIQUIDS WARM.

David M. Kupihea, Honolulu, Hawaii, has procured United States patent rights, under number 1,259,527, for a means for warming or keeping warm liquids described in the following:



In a device of the character described, the combination with upper and lower elements, of means extending between and secured to the same to form a receptacle, the top of the receptacle being open, fingers extending inwardly from the lower element to engage the top of a lantern to support the receptacle, certain of said fingers being spaced apart to permit the passage of the side bars of the lantern between the same.

COMING CONVENTIONS.

Texas Hardware Jobbers' Association, Hotel Galvez, Galveston, Texas, April 19 and 20, 1918. R. F. Bell, Secretary-Treasurer, Houston, Texas.

Alabama Retail Hardware Association, Birmingham, Alabama, April 23, 24 and 25, 1918. Walter L. Harlan, Secretary, 44 Boulevard Circle, Atlanta, Georgia.

Arkansas Retail Hardware Association, Little Rock, Arkansas, May 7, 8 and 9, 1918. Grover T. Owens, Secretary, Little Rock, Arkansas.

National Association of Stove Manufacturers, New York City, May 8, 1918. R. S. Wood, Secretary, National State Bank Building, Troy, New York.

Florida Retail Hardware Association, Orlando, Florida, May 15, 16 and 17, 1918. Walter L. Harlan, Secretary, 44 Boulevard Circle, Atlanta, Georgia.

American Iron, Steel and Heavy Hardware Association, Atlantic City, New Jersey, May 21, 22 and 23, 1918.

Southern Hardware Jobbers' Association, Traymore Hotel, Atlantic City, New Jersey, May 28, 29, 30, 1918. John Donnan, Secretary, Richmond, Virginia.

Old Guard Southern Hardware Salesmen, Traymore Hotel, Atlantic City, New Jersey, May 29, 1918. George H. Hillman, Secretary, 1402 McGavock Street, Nashville, Tennessee.

American Hardware Manufacturers' Association, Traymore Hotel, Atlantic City, New Jersey, May 28, 29, 30, 1918. F. D. Mitchell, Secretary, 4106 Woolworth Building, New York City.

National Association of Automobile Accessory Jobbers, Virginia Hot Springs, West Virginia, June 5, 6, 7, 8, 9, 10, 11, and 12, 1918. Commissioner, William A. Webster, 1813 City Hall Square Building, Chicago, Illinois.

National Association of Sheet Metal Contractors, Milwaukee, Wisconsin, June 11, 12, 13 and 14, 1918. Edwin L. Seabrook, Secretary, Philadelphia, Pennsylvania.

National Warm Air Heating and Ventilating Association, Milwaukee, Wisconsin, June 12, 1918. A. W. Williams, Secretary, Columbus, Ohio.

National Retail Hardware Association, Cedar Point, Ohio, June 18, 19 and 20, 1918. M. L. Corey, Secretary, Argos, Indiana.

Hardware Association of the Carolinas, Asheville, North Carolina, June 25, 26, 27 and 28, 1918. T. W. Dixon, Secretary, Charlotte, North Carolina.

REPRESENTS SIGN MANUFACTURERS.

Arrangements have just been completed whereby John H. Graham and Company, 113 Chambers Street, New York City, will represent the Wilbur Manufacturing Company, Incorporated, Wallingford, Connecticut, for the sale of their "Marbelite" signs, numbers, and letters. Judging from the honest and efficient business methods pursued by the company in the other lines of its hardware business, those who are in need of signs or numbers of any kind will be assured of the highest grade of service if they trade with John H. Graham and Company.

OBTAINS PATENT FOR A VEHICLE.

Under number 1,259,592, United States patent rights have been granted to Andrew Benson, Chicago, Illinois, assignor by mesne assignments to the Janesville Products Company, Janesville, Wisconsin, for a vehicle described herewith:

A vehicle comprising a running gear provided with a traction wheel, a platform extending longitudinally of said vehicle and provided to oscillate about a transverse axis, driving connections between said platform and said traction wheel to permit a child standing upon said platform with a foot on each side of its axis of oscillation to propel the vehicle by shifting his weight backward and forward in the direction of travel, and a rotatable steering device positioned to be grasped by said child when in standing position upon said platform to steer the vehicle and to aid the child in obtaining his equilibrium.

AMERICA NOW MANUFACTURES ITS OWN BRONZE POWDER.

When the United States entered the war all of our importations of products from Germany were naturally cut off. Large numbers of these products have been supplied to us for many years and we have become practically dependent upon Germany for many things which we are now forced to produce ourselves. Among these products formerly imported from Germany is Bronze Powder. The United States industries use practically 6,000,000 pounds of this product annually, and 35 per cent of our total consumption was formerly imported from Germany.

For many years German manufacturers have been practically controlling the Bronze Powder trade in this country, due to the fact that they have been offering prices which were less than those of the American producers. Bronze Powder is manufactured in over 200 grades, differing in color and texture. The finer qualities of powder, of course, cost much more than the lower grades, but it is necessary to produce all grades in order to obtain the finer grades by a process of refining.

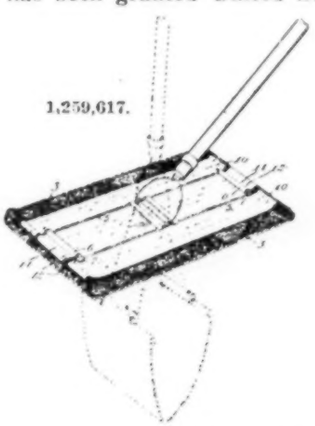
Germany had a steady market in Europe for all the higher grades of Bronze Powder that they manufactured. They did not, however, have a European demand for the lower grades and as a result exported large quantities of the lower grades to America. German firms made such a large profit on their finer grades that they could offer to sell the lower grades very cheaply. As a result of this condition our present enemies placed their products on our market at a price, which, although it included import duty, was lower than the price at which corresponding grades could be produced by American manufacturers. Under such competitive conditions the development of the industry on this side of the Atlantic naturally did not advance very rapidly and Germany carried off the cream of the trade for many years.

The declaration of war against the Teuton nations, however, stopped our imports of Bronze Powder. The American manufacturers, seeing their opportunity to get this trade, instantly increased their manufacturing facilities to supply the demand. The opportunity to supply the trade without foreign competition gave our manufacturers a chance to study the requirements of the users of bronze powder and to change their methods of production so as to give a product that would suit these needs.

The success of their endeavors is attested to by a large user of bronze powder who has for many years bought German made powder in preference to American brands and who now says "the American product has almost reached the standard of the German powder, and we believe that at the end of the war the quality and price of the domestic product will be so attractive as to make any foreign competition impossible." This results in the addition to the list of American made products of another product of which for many years Germany has been the chief producer and consequently further develops a centralization of manufacture of products which are used in this country.

ACQUIRES PATENT FOR A MOP.

Alexander Wink Grant, Montreal, Quebec, Canada, has been granted United States patent rights, under number 1,259,617, for a mop described in the following:



A flat flexible mop having a fabric foundation, transversely extending lengths of rope at the ends of the foundation and side and central tabs formed at the ends of the foundation, the central and side tabs at each end being hemmed over to envelop the lengths of rope, respectively, and stitched to the foundation on the inward side of the rope lengths and the central tab at each end projecting out beyond the side tabs and being stitched on the outward side of the rope length to form an eye.

THE HOME NEWSPAPER NEEDS YOUR SUPPORT

WRITTEN FOR AMERICAN ARTISAN AND HARDWARE RECORD BY ANDREW ABBOTT.

Every man in business needs the services offered him by the columns of his local newspaper if he wishes to develop his interests to the maximum. It is true men have made successes without the use of printers' ink, but only at the expenditure of great amounts of labor.

The time when everyone in your community will know about you will never come. Your audience is constantly changing and you have got to keep telling the people who and where you are, as well as what you have to offer them in your line. Then you have got to repeat it as often as you can.

If you are successful in merchandising, the biggest asset you have is not your stock, no matter how valuable, but it is the good will of your community. Good advertising, backed by good merchandising methods, is the shortest cut to obtaining good will.

Note in recent years how big corporations, which almost appear as monopolies, are using advertising space, as, for instance, the Bell Telephone, The Pullman Palace Car Company, The American Sugar Refining Company. This last company has set aside from its receipts of the last fiscal year the huge sum of $1,000,000.00 for advertising purposes.

If these great enterprises feel that they need advertising, how much more does the small merchant need it to keep himself and his wares in the public mind. These corporations have recognized that advertising expense is as much a fixed charge as insurance, taxes, pensions, depreciation, etc., inseparable from the proper conduct of business.

And what are the results obtained from advertising? A startling illustration is the nearly a billion of dollars over-subscribed for the Liberty Loan. This was directly attributed to advertising as pointed out, when the subscriptions closed, by the Secretary of the Treasury of the United States, W. G. McAdoo. The success of the drive for the Red Cross will be attributed to the same source.

The huge army of Great Britain was raised largely by advertising and as was the first British loan was oversubscribed in two weeks by advertising.

Almost without an exception the merchant princes of the country have laid the foundation of their success on advertising in some form or other, the bulk of the publicity being in the papers of their communities.

The merchant and the publisher have many interests in common. Both are dependent on the other. The merchant requires the services of the paper to carry his message in the most economical manner to its readers, whom he wishes to interest and sell goods to.

The publisher requires the patronage of the merchant, in that he will be able to make his Journal better, more readable and therefore more widespread in its influence and circulation. By doing this the paper is a great help to the upbuilding of a greater and more prosperous community.

"As ye give, so shall ye receive" is a truism which is very apt at this point. You may not realize it but here is a case where it is brought right home to you. The surest way to get more is to give more; more impetus means more business when applied to newspaper advertising.

It was recently stated that eighty-six of the business organizations which failed in Cincinnati last year were concerns which did not advertise in any way. There were one hundred and one failures in all and fifteen of the number had done some advertising. This statement was made to prove that the majority of non-advertising merchants were unable to make a success of their business. It is true that these same merchants might have failed just the same had they advertised because of poor merchandising methods, but it was less liable to happen. But it is generally the case that the organization which does not appreciate advertising values is liable to be deficient in other departments of the business as well.

Give more and you get more, always applies. If your business is a success you have paid for it with hard work, either in preparing yourself to grapple with the problems of life or in the actual upbuilding of the business. It is the same with everything connected with the business. To insure adequate supplies you have to pay the price demanded, to insure steady services of your employes you have to reimburse them adequately—they cannot be had on the job lot basis and so it is with your local paper. You cannot expect the publishers of your town to produce reliable, readable, live newspapers unless you, in common with the rest of the business interests of the community, pay an adequate price for the space you use and use sufficient space to enable the publisher to cover the news of your territory as you want it covered.

You will find, if you have not already, that the editor of the average paper, be it daily, weekly or otherwise, is the most reasonable fellow in the world. He wants to upbuild his community—no true newspaperman does otherwise—and is willing to meet the merchant over half way, both with the use of space and the circularizing of his notices, but he cannot do it without the merchants' co-operation.

Recently in a small town, the merchants were loudly complaining because the local weekly paper published the advertising of out of town merchants and catalogue houses. A short investigation showed them that hardly a dollar's worth of advertising could be secured from them except at the holiday season, and then only the minimum. A talk with the publisher also brought out the fact that even the letter heads and envelopes as well as bill heads and other printed matter was not bought of the local publisher, but from

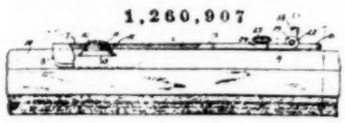
a mail order printing house in a nearby larger city.

Who could blame the publisher of the paper for his attitude. He had to live, advertising was the life of his paper and he had to get it where he could. He was glad, indeed, to throw out the advertising from outside as soon as possible, when the local merchants decided to advertise.

Support the publisher in his efforts to give you a good newspaper and he will support you with more and better business.

TRANSFERS PATENT FOR GUN SIGHTS.

Under number 1,260,907, United States patent rights have been granted to Thomas C. Johnson and Franklin F. Knous, New Haven, Connecticut, assignors to The Winchester Repeating Arms Company, New Haven, Connecticut, for a combined peep sight and open sight for firearms described herewith:



In a combined rear, peep sight and open sight for firearms, the combination with a one piece sight base adapted at its forward end to be applied to a gun barrel and having a yielding shank the rear end of which mounts a gage adjusting screw and which is widened and folded forward upon itself to form a knuckle having a central slot, of a sight piece having a complementary knuckle and being thus adapted to be pivotally mounted upon the rear end of the said shank, and comprising a leaf having an open slot forming an open sight, and a leaf standing at a right angle to the said open sight leaf and having a perforation forming a peep sight.

CLEVERLY EXPLAINS CO-OPERATION.

A graphic illustration depicting the working of co-operation in nature is furnished us by Leigh Mitchell Hodges in the January, 1918, issue of du Pont Magazine, published in the interests of the E. I. du Pont de Nemours & Company, Wilmington, Delaware. No more striking example can be found anywhere of practical co-operation than in that set forth in the following paragraphs:

What you see in a comb of honey is a pound of perfect sweetness encased in a wax structure that is a triumph of architectural engineering.

You pay twenty-five or thirty cents for this, take it home, spread it on your bread to tickle your palate and help fill your physical fuel bin, and—

What you don't see in this comb of honey is a little army of bees working harder than Trojans ever worked, sucking the ambrosia from clover blossoms.

Your pound of honey contains 7,000 grains of sugar. Each clover blossom provides about one-eighth of a grain, so this pound represents the sweet fruitage of 56,000 clover heads.

But the clover head is composed of about sixty florets or flower tubes. To extract the hidden sweet the bee must probe each of these. This means some sixty separate operations on each flower.

If one bee contracted to gather a pound of honey, that bee would have to explore 3,360,000 of these tiny tubes to secure the material. Allowing five seconds for each exploration and twelve hours to a day, it would take this bee some four hundred days to produce a pound.

And this would represent only the gathering of the honey, not the time required for building the wax-case and storing the sweet stuff.

But there never yet was a hive with just one bee to each comb.

Nature commands pooled effort.

Hundreds of bees to each comb make a comparatively quick and easy operation of what would be an impossible task for one bee working alone.

So what we do not see in the comb of honey is the greatest of lessons in the greatest of success-makers—Co-operation.

On every side Nature flaunts this lesson in man's face.

The seed itself is nothing.

Sun, soil and moisture must co-operate with the latent germ in order to produce plant life.

The solidest rock is only co-operating atoms.

The million men now training to fight under our flag in France couldn't gain a foot of Teuton territory if they went to war one by one.

Co-operating, they can turn the tide in favor of freedom.

The biggest business is bound for failure if its workers do not co-operate.

It is a machine whose parts do not work together. It may run for a while on its own momentum, but it is headed for the dump-heap.

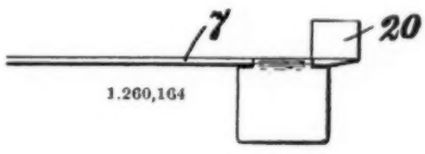
Not to co-operate is to court loneliness, life-rust and loss.

The a. B. c. of success is this—Be a Bee! Co-operate!

IS GRANTED UNITED STATES PATENT RIGHTS FOR VEGETABLE CUTTER.

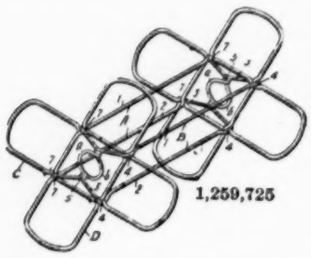
Benjamin Dray, Glasgow, Scotland, has secured United States patent rights, under number 1,260,164, for a vegetable cutter, described in the following:

A vegetable cutter having a frame having a floor over which the article to be cut can slide, a reciprocating open frame adapted to inclose the article to be cut and moving over the floor of the said frame to allow the article to be caught and turned by hand at each stroke, a knife in a plane parallel to said floor and in extension thereof, a plurality of cutting blades arranged with their edges in a plane including the cutting edge of said knife and above it, and a second set of cutting blades arranged between said knife and the floor of the frame with their edges in a plane parallel to the line of the cutting edges of the first set of blades to allow the machine to cut cubes, dice and similar shaped pieces.



SECURES PATENT RIGHTS ON REEL.

Charles I. Dailey, Pittsburgh, Pennsylvania, assignor to The American Steel and Wire Company, Hoboken, New Jersey, has obtained United States patent rights, under number 1,259,725, for a reel described herewith:



A reel having a cage barrel and opposite heads carried thereby, the cage comprising a pair of spaced substantially rectangular wire loops having their end portions disposed transversely thereof and inter-twisted to connect the loops together, and each head consisting of a pair of wire loops disposed at substantially right angles to one another, each of said loops lying between and being sprung into engagement with the bars of the cage barrel.

OPPORTUNITIES FOR FOREIGN TRADE PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

26697.—A firm in Argentina desires to represent American manufacturers and exporters of rope, firearms, hardware, and other goods. Correspondence should be in Spanish or Italian. References.

26701.—A company in England desires to secure an agency for the sale of general household utensils. Payment will be made by letter of credit through bank. Reference.

26716.—A firm in Mauritius is in the market for bolts and nuts, shovels and spades.

26718.—An agency is desired by a man in England for the sale of cutlery. He wishes to get in touch with manufacturers only. Quotations should be made f. o. b. New York. Reference.

26720.—An agency is desired by a man in Australia for the sale of black and galvanized sheets; tank, boiler, and bridge plates; fencing and nail wire; iron; tin plates and tinned sheets; and wire rods. Payment will be made by draft at sight, and for 30 or 60 days, exchange for buyer's account. Reference.

26723.—A company in South Africa, with agents in the United States, desires to be placed in communication with American manufacturers and exporters of padlocks, sluice forks, and ballast forks, especially ten-prong forks.

26726.—A company in England wishes to buy galvanized gauze wire nettings. Specifications and further information may be had on application to the Bureau or its district offices. Reference.

26727.—A firm in South Africa is in the market for enameled ware of good and cheap quality, wire nails, corrugated galvanized iron, fencing and barbed wire, galvanized wire netting, shovels, spades, picks, axes, hatchets, and low-priced padlocks, especially those on cards.

26730.—A man in France desires to secure an exclusive agency for the sale of oil stoves and apparatus for illumination with oil. References.

26732.—A manufacturer's agent in South Africa is in the market for hoes, picks, lamps, etc. If desired, he states, he would be able to furnish line of samples, showing most salable patterns in South Africa.

26733.—A merchant in India desires to be placed in communication with American manufacturers and exporters of cutlery and hardware. References.

26734.—A company in Portuguese East Africa is in the market for 5 and 7 inch Kafir hoes weighing 2¼ and 2½ pounds, Kafir picks weighing from 2 to 2¼ pounds, and large quantities of oakum. South and East Africa buys close to 100,000 dozen of these hoes and picks yearly. Samples of hoes, picks, and oakum such as desired are on exhibition at the Bureau's New York office.

26737.—A merchant in India wishes to purchase circular saws, files, belting, and other mill requisites. Payment will be made on demand or sight. Correspondence may be in English. Reference.

26739.—An agency is desired by a man in England for the sale of hardware or secure a general agency. Quotations should be made f. o. b. New York. Reference .

26742.—A company in South Africa is in the market for enameled ware, milk cans, cream separators, churns, oil stoves, and mining lamps.

26745.—A company in Brazil desires to secure an agency for the sale of general merchandise. Payment will be made at 90 days' sight. Correspondence may be in English. References.

26757.—A company in Australia is in the market for metal-cutting handsaw blades, tube cutters for cutting boiler tubes internally, high-speed hacksaw blades, brazing lamps, mortise chains and sprockets, asbestos sheets, plaited and twisted asbestos cord, phosphor bronze rods, cored phosphor bronze, chilled brass sticks, phosphor bronze sheets, galvanized cheese-head bolt with square nuts, bench vises, metal valves, and wrenches. The company has an agent in the United States through whom business will be transacted. Cash will be paid. References.

26760.—A man in the United States who is acting as the representative of a firm in France desires to secure an agency for the sale of kitchen utensils, etc. References.

26761.—An agency is desired by a man in Italy for the sale of hardware, saws, etc. Correspondence may be in English. References.

RETAIL HARDWARE DOINGS.

Iowa.

S. A. Anderson has purchased a hardware store in Corwith.

The Bennett Hardware Store has been sold to the Ellsworth Hardware Company of Ellsworth, who will combine the stock with theirs.

Kansas.

Milo Hare has sold his hardware store at Freeport to John Watkins.

John K. Wright has retired as manager of the Wilson-Wright Hardware Company, 230 South Main Street, Ottawa, and is succeeded by A. J. Broderson.

Minnesota.

Malloy Brothers have sold their hardware store at Eveleth to M. J. Lofback.

W. C. Gruetzmacher will open a new hardware store at Geneva.

F. W. Schierholk has sold his interest in the hardware business at Welcome to his sons, Henry and August Martin.

Frank Heimann is making plans to engage in the hardware business at St. Cloud.

Albert Fuerstman and Herman Heimbockel, Hammond, have bought the Kreinbring hardware business.

A new hardware store will be opened at Pelican Rapids by Knute Stenerson.

Missouri.

The Sewell Hardware Company's store at Lamar, which has been closed since March 20, has been reopened.

Nebraska.

A. E. Strong has sold his hardware store at Inavale to George Morrow.

North Dakota.

E. S. Evenson will engage in the hardware business at Bisbee.

Ohio.

The hardware store of William Fast at Savannah, Ashland County, was completely destroyed by fire.

Oklahoma.

M. C. Hale of Tulsa has purchased the Schoemaerts implement store at Bartlesville and will add a line of builders' hardware.

C. H. Ergenbright contemplates the opening of a hardware store at Skiatook in the near future.

W. J. Coffman has purchased J. W. Brown's interest in the hardware firm of Brown-Bobbitt-Sparks Company at Ada.

The Peoples Hardware Company's stock at Fairview is being transferred to Marfa, Texas, by S. P. Headlee.

Watts and Ingle of Marshall have purchased the Connor hardware store at Covington.

Wisconsin.

The hardware stock of Ed Weber at Baraboo, which was sold at auction, was bought by H. J. Baumgarten, who removed it to Columbus where he is engaged in the hardware business.

AUTOMOBILE ACCESSORIES SOLD BY HARDWARE DEALERS

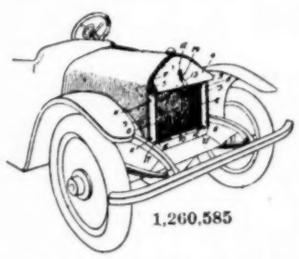
Chapman and Sons, have moved from 554 Hazel Place, Akron, Ohio, to 8 South High Street, and have abandoned their sheet metal business to engage exclusively in auto radiator and lamp repairing and rebuilding.

WARNS OF SHORTAGE OF GASOLENE.

An urgent warning was delivered to the owners of automobiles in America to use gasolene with the greatest economy possible. They were told that restriction by the Government of the use of gasolene may be adopted in this country. The warning was given by A. C. Bedford, head of the Petroleum War Service Committee, before the United States Chamber of Commerce in session at the Auditorium Theater, Chicago, Illinois. He said that, roughly estimated, the total demand made on the petroleum industry for gasolene this year will be over 60,000,000 barrels, and that the production in 1917 was not more than from 50,000,000 to 55,000,000 barrels. The greatest conservation is, therefore, necessary.

GETS PATENT FOR A RADIATOR COVER FOR AUTOMOBILES.

Under number 1,260,585, United States patent rights have granted to Solis C. Simon, Philadelphia, Pennsylvania, for a radiator cover for automobiles described herewith:



1,260,585

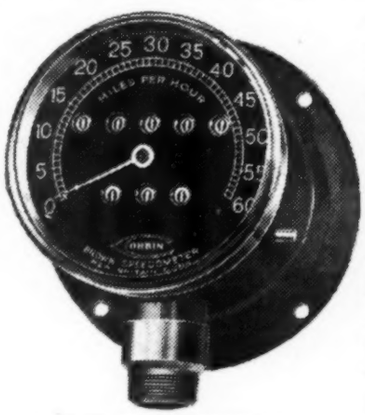
A cover of the character described including a portion adapted to cover the top and sides of a radiator, a curtain depending from the front of said portion, adjustable clamping means for connecting the sides of the curtain to said portion, the top edges of said curtain at positions within its width and adjacent its side edges being free of said first portion, the remaining portion of said top edge of the curtain being secured to the front of the top of said first portion substantially as described.

AUTO ACCESSORIES SHOULD BE GIVEN CONSPICUOUS PLACE IN STORE.

The slack season for automobile accessories has already departed. The busy season is on. Tours and trips are now in order. Therefore this is the appropriate occasion for taking the accessory department out of the dark corner in the rear of the store. It is the right time to move it up to the front of the store. Give this department a prominent place, a conspicuous one. Let the autoist know that you sell accessories. There is no need to worry about the decrease in the manufacture of autos owing to the factories being engaged in the manufacture of war supplies and munitions. The number of automobiles and light auto trucks running now is great enough to assure those who sell tires and other accessories that a lively trade will still continue. Tires will wear out and new ones will have to be bought just as before. There will be a great demand for speedometers, lights, and spark plugs. Dimmers will also be demanded in certain localities in accordance with the laws. Now is the time for hardware dealers to get busy.

GIVES ACCURATE MILEAGE RECORD.

An accurate record of mileage is an absolute necessity to an owner of an automobile or a truck. Without it he cannot tell whether or not his car is giving him good service. In order to get such a record it first is necessary to get a speedometer which is built in such a way as to be able to afford the required service. In deciding what kind of a speedometer to get, the auto or truck owner is advised to investigate the Corbin-Brown Speedometer, shown in the accompanying illustration. This speedometer is manufactured by the Corbin Screw Corporation, The American Hardware Corporation, Successor, New Britain, Connecticut, Branch Offices, New York City; Chicago, Illinois; and Philadelphia, Pennsylvania. This speedometer, according to the manufacturers, is built on the centrifugal principle of physics, which guarantees accuracy at all times, because science has proved that a mechanism built on this principle is not affected by changes in temperature or by electrical influence. It is further claimed by the company that every Corbin-Brown Speedometer is calibrated by hand and tested to absolute accuracy before being sent out. The speedometer for automobile trucks has a 4-inch dial with large easily-read white numerals. It is said to be sturdy and dependable. Another distinctive feature of these speedometers is the Maximum Speed Hand, which registers the highest speed attained, and which may be locked to prevent resetting by the operator. This, it is averred, insures careful driving and long life for the truck. Those who desire particulars regarding the Corbin-Brown Speedometer should write to the company for its latest catalog, which will be sent upon request.



Corbin-Brown Speedometer.

ADVERTISING CRITICISM AND COMMENT

Helpful Hints for the Advertisement Writer

TELLS CHIEF FAULT IN THE WRITING OF RETAIL ADVERTISEMENTS.

An expert on retail advertising recently made the following comment which would be well for advertisers to read carefully:

"One of the chief weaknesses of the retail advertiser is his inclination to place in his copy a vast amount of extraneous matter which serves no useful purpose except to tickle the vanity of the writer and provide valuable material for the family scrap book. The retail advertiser who fills his advertisement with accounts of his own noble achievements is like the old darkey who used to talk to himself because he always liked, as a listener, to hear a good speaker, and, as a speaker, to have an attentive audience. The public is not interested in your business success, or power, or progress, but in what you have to sell."

* * *

Advertising experts have been questioned over and over again regarding what they consider the proper, proportional amount of space that an advertiser should use. "Do you think that a large space is always more profitable than a small space?" "Is a small space cheaper in the long run, according to your investigations?" "Which attracts more attention, a large or a small space?" "Cannot a message be conveyed forcefully in a small space?" These are but a few of the countless number of questions which have been put to those experienced in advertising by the merchants who are less experienced. However, it is strange but true that to the innumerable queries pertaing to the advisability of a small space or a large space advertisement, there has been but one reply

Tinsmithing & Heater Work
Reasonable Prices. Prompt Service
JOHN B. GOHEEN
12 E. UNION ST., BURLINGTON

It is likewise true that this reply has almost invariably been in just two words. "It depends," is what all the experts say. It depends on what the advertiser sells, or what his trade is. It depends on how often he advertises. It depends on how well known he is. Sometimes a lengthy advertisement is more profitable, and at other times all that is needed is what is known as a business card, a good example of which is the advertisement of John B. Goheen, reproduced herewith from the *Daily Enterprise* of Burlington, New Jersey. It is sometimes thought that no skill is necessary in writing an advertisement of this size. This is a faulty impression. Unless such an advertisement is arranged attractively and forcefully, it is passed by entirely unobserved. It is evident, therefore, that greater care must be exercised in order to attract attention with a small space than with a large space. This copy shows that the necessary diligence has been taken. The first line of the advertisement is effective in getting the people interested in the advertiser. This line is backed up or supported by the two other strong remarks "Reasonable Prices," and "Prompt Service." The dealer then gives his name and address and the impression made upon the reader is a favorable one. The advertisement is small but profitable.

* * *

One of the surest and easiest ways to induce the buyer to trade with your store is to show him a standard line of merchandise. This has been demonstrated and proven too often to require any extensive argument. Consequently, when a dealer in his advertising sets forth certain well known brands of goods he is using a powerful method of bringing trade to his store. His case is practically won. The advertisement of the Meeting Hardware Company, which ran in the *American Democrat* of Anadarko, Oklahoma, is, therefore, valuable as a trade producer. It is true that there is not much reading matter, but the amount of space given to the standard brands of implements

John Deere and J. I. Case Farm Implements

Meeting Hardware Co

Phone 27, Anadarko, Okla.

is well used. The advertising of farm implements is especially attractive and appealing at the present time. The farm is perhaps the greatest factor, outside of the war zone, in carrying on the war to a successful conclusion. Our people are aware by this time that "food will win the war," and therefore, realize that every effort must be made to increase its production. Therefore by advertising standard farm implements the company helps increase its own business and does a patriotic act at the same time. The advertisement is timely and effective.

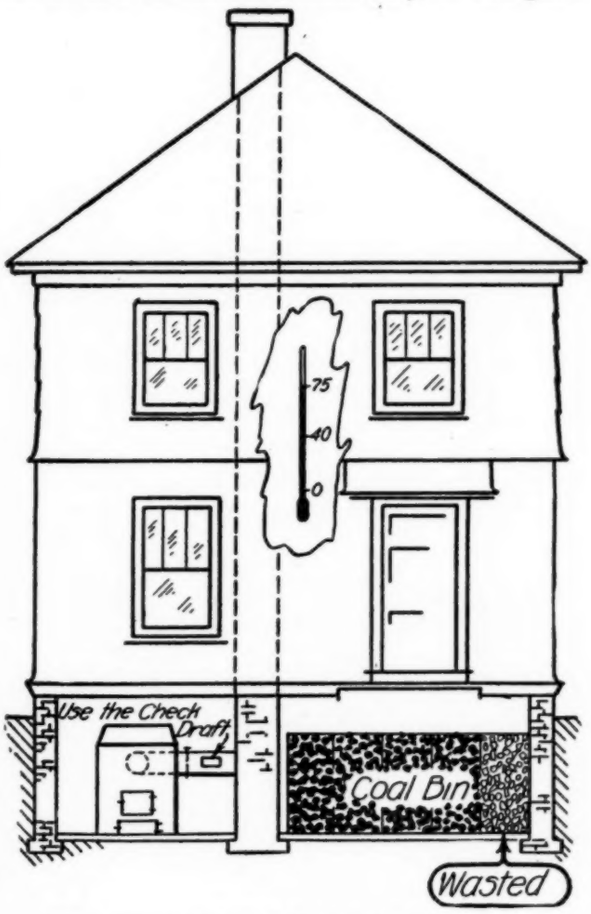
* * *

Advertising is to business what steam is to machinery—the grand motive power.—Macauley.

HEATING AND VENTILATING

WAR COMMITTEE OF THE UNIVERSITY OF ILLINOIS ISSUES GRAPHIC COAL-SAVING POSTER.

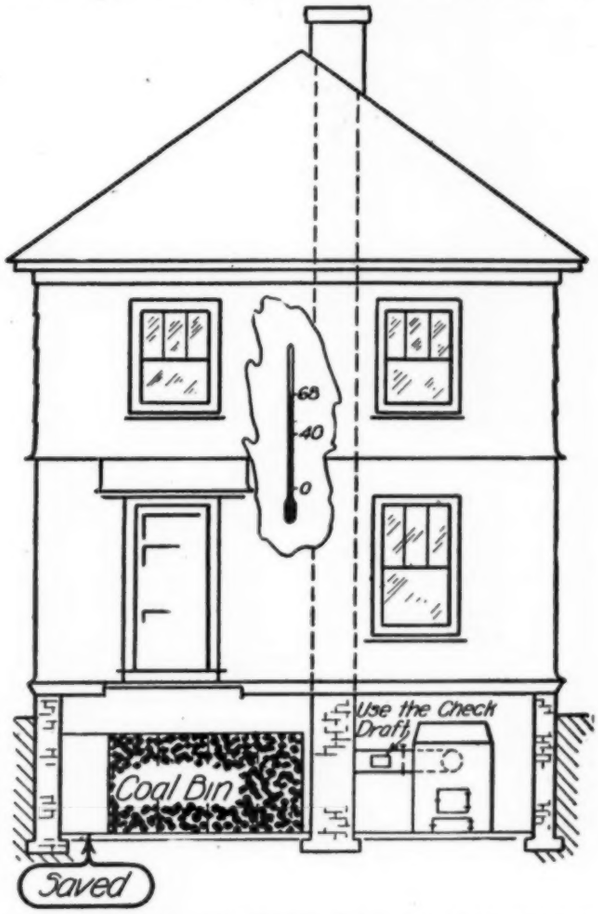
Dealers and installers of warm air heaters have offered to them a new means of promoting the patriotism of their clientèle and, incidentally, of strengthening their business interests, in a graphic poster just issued by the War Committee of the University of Illinois. The poster is printed in red and black. It measures 12x18 inches. The top line in black states that "Overheated Houses Waste Coal." This is followed by the question printed in red, "Is Your House One of Them?" Centrally placed on the poster are two views of houses, properly and improperly heated, which are herewith reprinted in reduced size.



This House is Kept at 75 Degrees Fahrenheit and is Wasting Coal.

The first house shows the thermometer at 75 degrees. Under this picture in large type is the explanation: "This house wastes coal because the heat-loss is 25 per cent more than for the other house. This loss occurs because the average temperature difference is 35 degrees, whereas it should be only 28 degrees." The difference in temperature is evident to the reader of the poster from the statement printed in the center panel of the poster, saying that the average outside temperature is about 40 degrees Fahrenheit for heating season from September 15th to May 15th.

The second house, shown herewith, saves the 25 per cent that the other house wastes, because the average temperature difference is only (68-40) 28 degrees. The temperature difference for the other house is 7 degrees greater, or seven twenty-eighths, which is 25 per cent more than the second house.



This House is Kept at 68 Degrees Fahrenheit and is Helping Win the War.

In large red letters, the poster concludes with the injunction: "Watch the Thermometer. Learn to Use the Check Draft and Keep Your House at 68 degrees Fahrenheit."

This poster has made so favorable an impression upon the National Warm Air Heating and Ventilating Association, that the Secretary, A. W. Williams, has sent out a letter concerning it to all the members of the organization, stating that the War Committee of the University of Illinois are not offering the posters for sale generally but, in response to an inquiry from Mr. Williams, very kindly advise they are willing to furnish them any time within the next month at the exact cost of $2.00 per hundred plus postage or express as the case may be. After that the type will

probably be distributed, although it will be held as long as possible.

They add: "There will be no objection on our part of having any manufacturer print a line at the top or bottom indicating that the same is presented with his compliments provided, of course, he does not eliminate the line 'War Committee, University of Illinois.'"

GIVES TWENTY REASONS IN SUPPORT OF PIPELESS SYSTEM.

The law of gravitation is the basis for the method of air circulation and ventilation used in the "Standard" One Register Pipeless System. Warm air, being lighter than cold air, is forced upward and carried to the rooms while the cooler air is drawn toward the other half of the register from which the warmed air emerges. This system is claimed by the manufacturers to clean, purify, moisten and warm the air, giving forth a soft warmth.

"Standard" One Register Pipeless Warm Air Heater. Made by Standard School Heater Company, Chicago, Illinois.

The company gives twenty reasons for specifying the "Standard" One Register Pipeless System and the following are some of them: They state the heater is self-cleaning, having no intricate flue spaces to become clogged up with soot or smoke. It is gas, smoke and air tight, also fireproof, with locking door handles as fire precaution. All joints are said to be fully asbestos packed, remaining tight. It burns hard or soft coal, coke, wood, cobs, or anything combustible. It is also stated that this heater keeps the basement cool enough so that fruits and vegetables may be safely stored. The Standard School Heater Company, 426 West Ontario street, Chicago, Illinois, will be pleased to mail copies of their catalogs to dealers desiring detailed information about this heater.

NEW YORK HEATING AND VENTILATING ENGINEERS MAKE PLANS FOR IMPORTANT MEETING.

In compliance with a request from the United States Bureau of Mines, a committee of the New York Chapter of the American Society of Heating and Ventilating Engineers is at work upon measures for the regualtion of coal supply to householders. With a view to assisting the committee in its labors, the New York Chapter will devote its next monthly meeting to a discussion of this important subject. The meeting will take place Monday evening, April 15, 1918, at the Building Trades Club, 34 West 33rd Street, New York City.

The committee in charge of the April session comprises the following members: Frank T. Chapman, chairman; F. E. W. Beebe, James A. Donnelly, Charles A. Fuller, A. E. Hall, John Morton, S. C. Parter, C. E. Pearce, W. R. Stockwell, and Ralph C. Taggart. The secretary of the New York Chapter, C. W. Obert, displays great energy and enthusiasm in the administration of his office and is making extraordinary efforts to get out a full attendance at the forthcoming meeting.

It is requested that the Chapter members come prepared to discuss the limitation of coal to the householders for heating purposes, based upon the number of rooms required to be heated, and taking into account the number of persons occupying the house. The question of fuel for cooking and for hot water service must also be taken into account in forming a rule for the regulation of the coal supply.

Most householders are patriotic, so a plan must be devised to avoid undue hardship, provided coal saving rules accompanying the plan are properly followed. The subject is one which should bring an interesting meeting and at the same time give promise of real service.

CARRIES THE HEAT TO UPPER ROOMS.

There are some people who doubt the ability of the pipeless or the single register warm air heater to warm upstairs rooms. These people absolutely will not buy unless they are convinced. However, this should not frighten dealers or installers. The Independent Register and Manufacturing Company, 713 Frankfort Avenue, North West, Cleveland, Ohio, is now manufacturing the Independent Adjustable Ceiling Ventilator, show in the accompanying illustration, which, according to the manufacturers furnishes the convincing argument to those who are skeptical.

Independent Adjustable Ceiling Ventilator.

It is claimed that with the use of this ventilator the surplus heat from the lower rooms is utilized, and carried to the rooms above, thus saving the expense and trouble of installing wall pipes to the upper rooms. Each ventilator or register is said to be complete in itself, consisting of a floor register with valves, a ceiling plate, and a sheet metal box which adjusts from seven to twelve inches, connecting the two, spiral springs holding all in position. It is declared that this ventilator is ready to install when received by the purchaser, and will fit all ordinary ceilings. An interesting booklet containing information regarding this ventilator is sent by the company to all those who apply.

PROFESSOR HOFFMAN LECTURES TO ILLINOIS CHAPTER HEATING AND VENTILATING ENGINEERS.

Seldom has so much practical information been condensed into a single lecture as that which characterized the address of Professor J. D. Hoffman to the monthly meeting of the Illinois Chapter American Society of Heating and Ventilating Engineers which was held Monday evening, April 8, 1918, at the Chicago Engineers' Club, 314 Federal Street, Chicago, Illinois. It was remarkably free from technicalities and discursive theorizing. The professor possesses the rarest of all talents, namely, the faculty of imparting knowledge in an attractive and intelligible manner. The full text of his lecture is as follows:

A Line of Extension Work for the American Society of Heating and Ventilating Engineers.

By Professor J. D. Hoffman, Director Department of Practical Mechanics, Purdue University, Lafayette, Indiana.

Whatever I may say tonight should be capable of practical application, because at this time theories that will not apply should be laid by for less exacting times. It should also relate to our society in its endeavor to serve the public, which for several months has been so patient and so helpless. Our society looks to its members to sense the times and make suggestions for public betterment, and in response to this feeling I have some to offer along the general lines of extension work.

Advocates Campaign of Education.

In my opinion the time has come for a campaign of education for *more satisfactory heating and ventilation in the homes* of our country. Business blocks, auditoriums, schools and buildings of larger proportions have been carefully worked out, and because of their importance as public utilities have been treated with such respect by both architect and engineer as to insure fairly satisfactory service. The home of the private citizen of moderate means, on the contrary, is not so fortunate. It still suffers grievously. The need for such agitation is apparent. The strange thing to me is why we have stood by so long without saying anything. I am convinced that the job must be done by some one, and in the words of the miniature "Coonlets," "Why not let the American Society of Heating and Ventilating Engineers do the work?" There may be some reason why our Society would prefer to keep out of it. If such is the case, then some other means should be found through which to educate the public to demand and see that they get more satisfactory heat in their homes.

Better Installations Are Needed.

The recent coal situation has served the purpose of calling attention to the heating and ventilating engineers that in the future economic problems of the home they must necessarily become more vital factors. Heretofore, they have pacifically endeavored to fit their heating and ventilating systems into illy-conceived and poorly constructed houses and have trusted to their ability as engineers to overcome the handicap imposed upon the systems by architects or constructors who knew little and cared less about the requirements of home comfort. The heating and ventilating engineers this past winter have shown their willingness to do anything in their power to tide over the acute stages of panic and suffering due to the fuel shortage. They have unceasingly counseled "fewer fires" and "more economic firing" because under the conditions this was all that could be done. *Then*, nothing counted as much as *direct coal saving* but *now* that the stress of severe winter has passed we may ask ourselves *what* and *how* may the heating and ventilating engineers do to assist in laying the foundation of a more effective economy in the years just ahead.

Chronic Conditions Must Be Remedied.

In the practice of medicine when the patient is afflicted with an acute case, the first thought of the physician is to give immediate relief. When the crisis is passed, chronic conditions are treated to give *tone* to the system. In our fuel situation this past winter heroic treatment was applied in large doses. Now, if we can by homeopathic doses of good sound doctrine, published and judiciously distributed, care for and tone up some of the run-down and general-debility conditions of our domiciles, the country will be truly grateful.

Handicaps Economic Heating.

I have especially in mind some of those house conditions (principally residences) that not only work against economic heating, but absolutely prohibit it in a large number of cases. Some of these conditions are due to the mistakes of the architect, with knowledge aforethought or otherwise, some of them to the heating man (or hardware man) who installs the system, and some to the householder who in the light of false economy is not willing to pay the price of good work. There is no need to discuss who is at fault, let that rest where it may. If we outline some of the ills and how these ills may be remedied there is no doubt that it will be but doing our duty.

Wrong Ideas of Ventilation Are Prevalent.

I would like first to call attention to the popular ideas and ideals of ventilation. Years of experience and observation of the medical fraternity all over the world have combined to develop such a wholesome respect for normal outdoor air as a health preserver that we were coming to understand that this was one of the best health preservers and about the only cure, when cure were possible, for lung and throat diseases. Unfortunately, well meant scientific experimental data have been so misinterpreted by certain people as to make the question of the purity of the air a non-essential. I quite agree with Dr. Evans, who gave you such an able presentation of the subject at your February meeting, that although we are not able to determine the exact reasons why pure air is a food and why on the other hand respired air is harmful, this fact is no proof that the healthfulness of pure air which has so long been considered axiomatic with us should be so discounted. Many published articles, some, I am sorry to say, from the pens of heating and ventilating engineers, emphasizing such revolutionary ideas, have gained a considerable following over the country among those persons whose attention has not been directed particularly to the dreaded results of respiratory diseases, and especially among landlords who would profit by the abolition of the fresh air idea. The latter list may be classed as real obstructionists, and if we add to the list the list of those conscientious householders who, through lack of information or through misinformation do not appreciate the value of pure air, it is very easy to see why the death rate in our shut-up homes is an increasing variable during the winter months reaching a maximum along in February or March. When the health of people is at stake it is far better to err with *too much* than *too little* outdoor air. My advice is, practice and preach "pure air a plenty."

Average Residence Is Not Perfectly Habitable.

This leads me to apparent contradictory statements. In the face of what has just been said we need to urge a campaign for better built houses. Houses that are made to *live in*, not merely to rent or to *sell*. It is a sad commentary on our American domiciles, but it is a fact that the average residence is a satisfactory habitation for only nine months in the year. In many of them it is little better than camping out. When the cold winds of winter go chasing themselves through the walls of the building, reminding you of your last summer's experience when, in an unusually heavy blow, you found the tent stakes pulled up and next to nothing between you and the outside breezes, you are ready to swear that *there are times when there may be too much fresh air in the house*. One may be a radical on fresh air and at the same time sane in his reasoning concerning the comfort of the body and the economy of the fuel pile.

Says 75 Per Cent of Homes Are Not Properly Heated.

I have seen it quoted, that in 1912, 75 per cent of the residences built in the United States cost $5000 or less. This ratio, if correct, has probably not changed much in the interim. From what I know of the methods of construction of the average residences of this class, I am safe to venture that 75 per cent of this number are not satisfactorily heated. Further, I am willing to venture that 75 per cent of the number not giving satisfaction are failing, not so much from the lack of gray matter on the part of the heating man as from unsatisfactory house design and construction.

Many Houses Have Poor Sheathing.

Look at the ordinary balloon framed houses. In most of them the sheathing is very inferior in grade and loosely butted at the edges, when there should be solid boards and lap joints. Some of the houses have no building paper or equivalent, some have one course of building paper, a few have two, but very few courses are laid with care to serve as an insulation. Incidentally let me say that two courses of paper in face contact are inferior to one course with the sheathing and one course woven in and out over the studding; or, to one course with the sheathing and one course on the inside of the studding, with strippings under the laths to bring the plaster free from the paper surface. Again, suppose the wall is well protected against inleakage but that the upper and lower ends of the spaces between the studs are open. In this case there is free convection of air upwards between the inner and outer layers of the wall and the heat that should be kept within the room is dissipated to this air current and lost to the attic, and the conditions are worse than the open wall in that the heat is lost and there is no corresponding physical benefit from inleakage.

Bungalow Type Is Often Defective.

One of the worst types of construction, and one I have frequently met with, is the bungalow type second floor outer wall which offsets within the plane of the first floor outer wall. Irrespective of the type and quality of main wall con-

struction (balloon frame, brick or stone), the second floor wall is studded down from a ceiling level near the roof line, lathed and plastered on the inside of the studs and on the ceiling; and the outside of the studs and joists left open to the cold spaces under the roof. In two, otherwise well designed and properly heated stone bungalows called to my attention recently, where the heating systems were pronounced failures, the heat lost through the second floor walls and ceilings to the cold spaces underneath the roof was so great that a cold draft of air down the open stair was sufficient to make the first floor uncomfortably cold. A careful inspection of the heating systems showed them sufficient in capacity to supply similar buildings with ordinarily well constructed walls, and excessive in capacity for the heavy stone outside walls such as these houses had. Everything seemed to be satisfactory, but as a last resort I asked to see the attic construction. Here we found that the exterior walls and ceiling of the second floor had only one ordinary lath and plaster thickness separating the rooms from the attic spaces. The outside temperatures at the time were near zero and the temperature in the attic spaces showed that the heat was going through these plaster partitions like water through a sieve.

Advises More Thorough Insulation.

My advice in each case was to surface the outside of the studs and joists with heavy building paper or tight boards, or better, with both. I have mentioned these two cases because they show how a splendid construction may be put to the bad by inexcusable carelessness in some hidden detail of construction. These houses that on the face of things were overheated, were as a matter of fact only partially heated and through no fault of the heating man excepting that he should have insisted upon knowing what kind of construction would be used in these various walls. Most cases of poor house construction that come to the attention of the heating and ventilating engineer differ from the ones mentioned in that the failures are due to *general house debility* and it is more difficult to say which bad feature has the greatest effect to produce failure of the heating system.

A Word of Warning to the Heating Engineer.

It frequently happens that in order to conceal his piping the heating engineer frequently crosses the wall and carries his pipes through the attic spaces. The practice improves the appearance of the rooms somewhat (and some householders insist upon it), but it is opposed to economy. In one striking example of how not to do it, a new vapor system was installed in a stone bungalow last summer with all the second floor returns and some of the mains traversing these attic spaces. The result was a freeze-up in every radiator on the windward side, alternating of course as the wind shifted so as to give every room some of the same experiences, and during one week of the extreme weather every second floor radiator was out of commission. No insulations were put on the pipes and I doubt if they could have been successfully insulated against the zero temperatures which the thermometer showed near the pipes. Vapor system returns are especially susceptible to freezing conditions.

Overhanging Room Is Obstacle to Efficient Heating.

Another feature of house design that is frequently fatal to the plans of the heating engineer is the overhanging room with only one thickness of ⅞-inch flooring on the room and light ceiling over the porch. This always gives a cold floor that is not only uncomfortable to the occupants but ruins the heating possibilities on cold days. Those remarks do not apply of course to sleeping porches with no heat. If an overhanging room is desired be sure to put in a well insulated floor.

Condemns Loose Construction Around Windows.

One feature of house construction that reflects against the builder rather than the architect is the loose construction around the windows. The owner wishes free moving sash and the workmen give him everything he could desire in this regard. But how about the person who is expected to inhabit the room on a zero day when the wind is blowing a 20-mile rate? I have caught snow in my hand at a distance of two feet from a tightly locked window, in a house supposed to have better than ordinary construction. What can the society do to better such conditions? Window strips, metal weather strips, and storm windows may be urged. Storm windows, top hung, give satisfactory insulation during the cold days and at the same time provide ventilating possibilities on moderate days. An average nine-room house can be supplied with good storm windows, west, north and east for an expenditure of seventy-five to one hundred dollars, and the coal saving will pay for the first cost in two years' time. Such storm windows are no hindrance to open window ventilation when desired.

Indicates Requirements of Good Chimney.

Next, let us look at the chimney. Several points in common practice among architects tend toward inefficiency. The outside chimney with all its possibilities toward exterior ornamentation is not a good draft producer because of the chilling effect of the outside air. Where a chimney is required in an outside wall it should be not less than two bricks thick (8 inches) on each side of the flue at the thinnest part, increasing to at least 12 inches on the lowest part. This is improved if the chimney wall is double with an air space between the walls. Such an air space may be closed in with an occasional layer of header bricks from the outside wall nearly touching the inner wall. These header bricks cut off air circulation and in addition steady the inner wall. They must not bind the two walls together since the lineal expansion of the two shafts are not equal. The chimney is improved occasionally by an ornamental wall of cobble stones laid up on the outside of the chimney proper. All chimneys should have an inner lining of hard burned tiles well cemented at the joints and embedded with the inner brick surfaces.

Specifies Ideal Form for Chimney.

The ideal shape of the chimney is *round*, but this shape does not lend itself to convenient construction. Since most chimneys are too thin on the free area, an approach to a square would be desirable. Assume the chimney to be otherwise properly designed for height, size and shape for warm air heater or fire place service, as the case may be, the principal point to be observed in its construction is to protect the gases from the chilling effects of the outside air. An interior chimney overcomes this difficulty completely and in my opinion is much the better proposition.

Control of Rate of Fuel Consumption.

With a strong draft assured at all times in the smoke pipe between the warm air heater and the chimney, it is a simple process to control the rate of fuel consumption in the heater by keeping the ash damper closed, the damper in the fire door open, and regulating by the smoke pipe and check dampers. This method of regulation probably gives a more uniform rate of burning than by regulating the ash damper, but it presupposes a warm air heater of sufficient capacity to permit eight-hour intervals between firings.

States Objections to Outside Chimney.

Satisfactory chimney draft is a point to be given serious consideration. Householders worry about smoking fire places and speak of the faulty construction of the chimneys, all of which is true in many cases, but they fail to grasp the fact that the same chimney enclosed in the house construction would undoubtedly have sufficient draft that smoke would never enter the room. Again, an inside chimney is not only more constant in its draft but its location frequently provides an opportunity of collecting together some of the warm air stacks, if the house is heated by warm air, and assures a good warm air circulation to the rooms at all times. *A word of caution* on the inside chimney, *under no consideration should the house construction be rigidly fixed to the chimney*. This is too frequently done. The expansion and contraction of the chimney causes movement of the floors thus cracking the walls and ruining the fit of the doors, casings, etc.

Relation of Interior Construction to Heating.

So far I have been pleading for better *exterior construction*, since this is the most vital. The points touched upon do not by any manner of means exhaust that part of the subject, but they will suffice to call attention to the most glaring faults. Now for a little while notice what the heating man is up against on the *interior construction*. This part of my talk refers to indirect heating, or say *warm air heating*, since steam and hot water direct heating may be fitted to almost any building no matter what the interior construction may be.

Warns Against Inadequate Heating Plants.

A while ago I ventured the remark that 75 per cent of the smaller residences (those costing less than $5000) were unsatisfactorily heated. I am willing to make another guess that 75 per cent of these unsatisfactory systems are warm air heater systems that fail, because the architect and contractor have restricted the heating man to such a degree that the heat lines of his system are too small to carry the heat necessary to supply the loss through the outside walls and windows. If this statement is even only approximately true, then it would seem that our society has neglected the warm air heating business. Any one of the necessities of the home that is so vital to so many of our people should be more carefully guarded.

Explains Causes of Failures of Warm Air Heaters.

Now what about the warm air heater failures? Some of these fail to give satisfaction when installed in well-built houses. Such plants are largely the mistakes of the heating man in not installing warm air heaters of sufficient capacity to do the work or in not requiring certain changes in the house arrangements. In this he should be held responsible. Too many warm air heater men are willing to risk too much. They should know what will or will not work and should stay by their convictions or throw over the job. The man who is not willing to sacrifice his reputation for the sake of a job that he feels sure will fail, or one that he would have to skin in order that he may make a living wage, will always carry a reputation for safe and sane work work. However, by far the greater number of plants fail because of limitations imposed upon the warm air heater man by features of building construction in no wise under his control. Let us note some of these limitations taking them in the order of first importance.

Wall Stack Is Chief Defect.

In my opinion the *wall stack* is the chief offender. In houses of this classification $5000 or less, the interior walls are built of 4-inch studding, set 16 inches on centers. This gives, allowing for shrinkage of the studs, approximately 3¾ by 14¼ inches maximum cross section of opening through which the vertical air ducts (stacks) are run. Since stacks fit loosely in this space and are supposed to be insulated from the woodwork of the wall by one or two layers of asbestos paper, single walled stacks will be about 3⅝ by 14 inches, and double walled stacks (two stacks fastened symmetrically with each other with a thin air space between), 3¼ by 13⅝ inches. All such stacks are tin or light G. I. and as such cause very little friction in the movement of air through them, but they fail because they are *too thin* or because they have *too many right angled turns*. The maximum wall stack has say 45 square inches net cross sectional area. This will supply a 10 ft. by 12 ft. centrally located room having small exposure, but is not sufficient for large rooms or for heavily exposed rooms.

Gives Example of Insufficient Equipment.

Strange as it may seem, some of the best illustrations of how not to do this part of the work are exhibited in buildings where you would have every reason to expect the best demand. This winter I was called to look over a warm air heater system installed in one of the better class residences. Adjoining corner rooms on the second floor, southeast and southwest, approximately 12 feet by 16 feet by 8 feet each, were supplied from one wall stack 40 square inches net area. This stack, topped by one register in each room was supposed to keep the rooms comfortable. As a matter of fact this stack would not supply one room of the size stated even if the room were better located than either one of these was. But this feature was not the worst. The stack as installed had a horizontal offset in the second floor of about two feet. And to add to this, the stack was located about as far from the warm air heater center as could be done without actually putting it in the outside wall. The first floor plan would have permitted a stack to each room and shorter leaders, hence the fault was largely on the warm air heater man.

Indicates Need of Proper Stack Dimensions.

What he should have done was to insist upon a 6-inch partition, or still better an 8-inch by 8-inch stack to each room from a point nearer the warm air heater, which could have been done by slightly modifying the first floor wall construction. These two rooms were not the only ones queered in this residence. The whole job was the best illustration of how not to do it that I have seen for a long time. This plan is only typical of a large group of others. There are so many plants resembling the work on this one that it is no wonder the suffering public is beginning to condemn the whole warm air heater business. The ordinary wall stack is a habit with me—*a very bad habit*. Can't we conceive of some new styles of first floor designs that will permit square or nearly square air shafts instead of the elongated rectangle whose effective cross area approaches zero? I am no architect, but in many cases have been able to make suggested changes that lost little in appearance and gained the point desired in heating.

Tells Importance of Pitch of Leaders.

Another point, chargeable principally to the owner, is the *low basement ceiling* that reduces the pitch of the leaders to a minimum. If the average householder realized the importance of extra pitch to the pipes he would let loose of enough additional capital to guarantee a ceiling height of 8 feet instead of 6 feet, as is so often found.

Need of Return Metal Duct.

Another point, tabooed by the average warm air heater man as unnecessary, is the return metal duct. No warm air heater plant should be installed that has any part of its air lines formed by merely tinning along the edges of the studs and joists. This is against the laws of the convection of air and is an offense against the sanitation of the building. The almost universal custom among warm air heater men takes air from off the floor of the room, dust and all, and carries it back to the basement through a duct that is one side very rough plaster, two ends rough studs and one side tin. In many cases this is continued to the warm air heater between rough joists on two sides, a fairly loose floor above and tin beneath. After a while the collection of dust and microorganisms that deposit on these rough surfaces would fill a cemetery if turned loose on the neighborhood en masse. Why not add a few dollars to the building and make a smooth duct system with hand holes at intervals to permit cleaning once each year by swabs or fans, as the case may require? Not only will the house be more sanitary, but the heating system will come nearer giving satisfaction because the laws of friction have been considered intelligently. Teach the householders what to expect and most of them will use your advice.

Principles by Which Warm Air Heater Operates.

All warm air heater plants operate on the principle of *natural air circulation*, that is, when air is heated it expands, becomes lighter and rises, while the surrounding cold air falls and takes the place formerly occupied by the heated air. This is plainly experienced when standing by a large bonfire. The heat of combustion causes strong up currents above the fire and corresponding cross currents of cold air along the ground toward the fire. Consequently, when air within the warm air heater is heated there is an unbalancing of the densities (weights) between the air within and that without the warm air heater, resulting in the warm air rising from the warm air heater to the house rooms through connecting pipes and the cold air from the rooms falling and entering the bottom of the warm air heater in an attempt to preserve the balance.

Necessity of Continuous Air Circulation.

Combustion, therefore, within the warm air heater firebox produces continuous circulation of the air. Now the two chief obstacles in the way of satisfactory circulation are the pitch of the pipes and the friction of the air current as it moves through the pipes to the room. *Warm air must travel upwards* to the rooms, consequently leader pipes that lift above the horizontal benefit circulation in proportion as that lift approaches a vertical. The circulating effect of a horizontal pipe is nil, that of a vertical pipe is 100 per cent. The pitch of the pipes, therefore, should be made as great as possible. This means that the basement should have a high ceiling, the warm air heater should be set low (sometimes in a cemented pit) and the leaders should be short. These conditions may be hard to obtain but they should be met as nearly as possible. A warm air heater set in a low ceiling basement, with leaders long and fairly near the horizontal may be labeled "failure" even before it is fired up.

Defective Construction Prevents Satisfactory Heating.

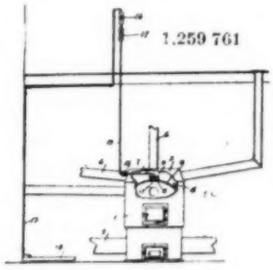
The conditions governing the pitch of the pipes, aggravating as they may be, are to a greater or less degree within the control of the heating man. Friction, on the other hand, is a worse enemy to overcome because the conditions controlling it are bound up with the house wall construction and this is usually fixed by the architect before the problem is put up to the heating man. I have no desire to shift the burden of responsibility. The mediocre heating man, especially the warm air heater man who knows enough to buy a warm air heater at the cheapest price but does not know enough to install it correctly, is a detriment to the heating profession, but in many cases he is more sinned against than a sinner. He is the victim of a type of construction that even the best at times stumble over. What we need in this country is a type of building construction that looks toward comfort, utility, and permanency.

Asks for Publicity to Educate Householders.

Is it not possible to put on a campaign of education in such a way that the average man who may be contemplating building himself a little home may become more informed on these vital points that are so necessary in co-ordinating the heating and ventilating features with the building construction, and in that way develop an independent thinker who will not be wholly at the mercy of the unscrupulous promoter or the uninformed individual who frequently poses as an architect or engineer? Such a movement to be effective must be supported by some organization of men whose interest in the best things under discussion cannot be questioned. The press of the country is always ready to assist in anything that stands for the public good so long as it is convinced that the movement is bona fide and under competent supervision. May the time soon come when we will build our houses to serve as homes and not as private cantonments.

GETS PATENT FOR AN ATTACHMENT TO WARM AIR HEATERS.

Under number 1,259,761, United States patent rights have been granted to Ernest James McMillan, Moose Jaw, Saskatchewan, Canada, for an attachment to warm air heaters described in the following:



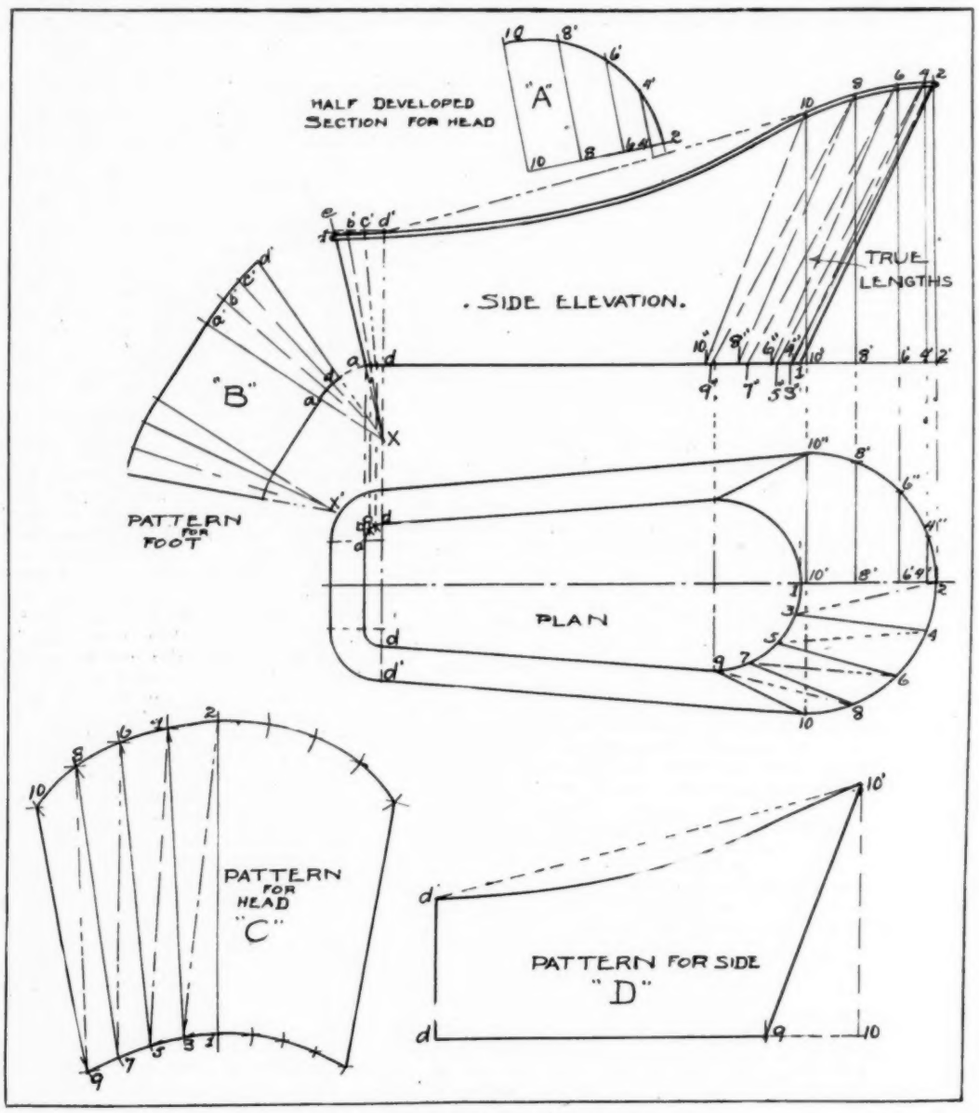
The combination with the warm air chamber and the dome of a warm air heater, of a fire proof water drip receiver mounted centrally on the top side of the dome and within the warm air chamber and provided with an inner chamber having radiating outlet ducts passing therefrom and a drip pipe connected with a water supply and communicating with the chamber within the drip receiver.

PRACTICAL HELPS FOR THE TINSMITH

PATTERNS FOR SHEET METAL BATH TUB.

BY O. W. KOTHE.

In rural districts and also outlying districts of large cities that have not the city improvements, the metal worker must make up bath tubs now and then. One design is shown in this drawing by the side elevation. By inspecting the plan it will be observed the foot end has round corners while the head end is rounding and has considerably more flare than the foot end. From this design the workman can lay out the foot end by the radial line method while the head is laid out by triangulation. The side is filled in afterwards.



Patterns for Sheet Metal Bath Tub.

First draw the bottom of plan to the desired dimension. Next measure the flare, or draw the side elevation giving the desired flare on the foot end. Describe this flare and carry the side lines parallel with the side lines of bottom. Next draw a slant line of the head end 1-2 and drop a line from point 2 to plan and locate the largest diameter as 10-10" and describe the semi-circle for head. The side lines must terminate in the ends of the semi-circle. The top line of side elevation is next drawn at pleasure to suit the eye of the workman.

Divide the quarter circle a-d of plan into equal spaces and erect points to the base line of elevation as in points a-b. Erect a line from point d, and extend the slant line to intersect it as in point X. From X, radiate the points to top of tub, establishing points a'-b'-c'-d'. From each of these points draw lines parallel with the base line a-2' to intersect the slant line e-X. With dividers set to X as center and a, as radius describe the small arc a-b. Step off the stretchout of this arc and draw a line X-a'. Draw radial lines through the rest of the points and then using X as center describe the points from line a'-e and thereby establish a'-b'-c'-d' in pattern. This gives that curvature at the top to correspond with the slight rise of top line in elevation. Now from points a, and a' in pattern square out lines making that equal to the flat side of foot end and then reproduce the radial lines from point X' which finishes the pattern "B" for the foot end.

To develop the head end divide the two semi-circles into the same number of equal spaces and draw triangular lines as shown. From each point as 2-4"-6"-8"-10" erect lines to intersect the top of elevation. These are the altitudinal lines for the various heights.

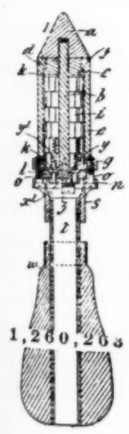
We can use these vertical lines for obtaining the true length instead of drawing another diagram elsewhere. So with dividers pick the dotted line 2-3 from plan and set as 2′-3″. Then 2-3″ will be the true length. Next pick solid line 3-4 from plan and set as 4′-4″; then 4-4″ would be true length. Continue in this way until all lines have been transferred and the true lengths established.

Before the pattern can be set out it is necessary to draw a developed section "A" through the head along the top. It will be observed the line 2-10 in elevation is on an incline and therefore the distance around the edge will be longer than if picked from plan. So with dividers pick the spaces 2-4-6-8-10 from elevation and set on the line 2-10 of "A". Square out lines and make line 4-4′ equal to 4′-4″ of plan. Pick line 6′-6″ from plan and transfer as 6-6′ in "A". In like manner pick 8′-8″ and 10′-10″ and set in "A". Trace the curve 2-10′ and we have the stretchout for the head of pattern.

To set off the pattern, draw a line 1-2 equal to 1-2 of elevation. Set dividers to one of the spaces 1-3 of plan using 1 in pattern as center, strike small arcs as at 3. Next pick the space 2-4′ from "A" and strike the arc 4 in pattern using 2 as center. With dividers pick line 2-3″′ from true lengths and using 2 in pattern as center cross arcs in point 3. Repeat and pick line 4-4″ from true lengths and using the new point 3 as center, cross arcs in point 4. Continue in this way until points 9 and 10 are established and pattern for head "C" is finished. The pattern for the side can be stepped off by drawing a base line d-9 equal to d-9 of plan. Erect a line as d-d′ and make this equal to d-d′ of pattern "B." Next pick side line d′-10 from plan and set as d-10 in pattern. Square up a line. Now pick line 9-10 from pattern "C" and using 9 in pattern as center cross arcs in point 10′. The top curve can be traced in or reproduced from the elevation. Laps for seaming must be allowed on all patterns.

GETS PATENT FOR SOLDERING IRON.

Francis Husband and Albert Ernest Woodhouse, London, England, have obtained United States patent rights, under number 1,260,263, for an electrically heated soldering bolt or bit described herewith:



A heating unit comprising a metallic casing, a metallic bit at one end of said casing, an end member at the opposite end of said casing, a metallic central member extending from said bit substantially to said end member, insulating means mounted about said central member within said casing, an electric heating element mounted upon said insulating means, terminals for said heating element fitting within said end member and passing therethrough, said end member closing said casing whereby heat is confined therein, means conductively related to said terminals whereby conductors may be detachably secured thereto, and a handle secured in position to receive the conductors.

TELLS MARVELOUS DEVELOPMENT OF THE ALUMINUM INDUSTRY.

The growth of the aluminum industry in the United States has been so rapid that this country has now become the leading world producer of aluminum. A recent compilation shows that the production of aluminum in the United States has grown from 60,000 pounds in 1890 to 7,000,000 in 1900; 48,000,000 in 1910; 100,000,000 in 1915; 140,000,000 in 1916, and approximately 180,000,000 in 1917, these figures being in very round terms. The value of the product, which amounted to a couple of million dollars in 1900, was 16 millions in 1915, and approximately 46 millions in 1917.

This rapid increase in production places the United States far in the lead among the aluminum producing countries of the world. In fact, about one-half of the world's output of aluminum is now produced in the United States, for, while authorities differ somewhat as to the production by certain of the respective countries, they agree that America produces about one-half of the world's output, which is variously estimated at from 135,000 to 150,000 tons, or slightly more than the world's production of tin for which aluminum is now becoming a substitute in certain lines.

This fact that aluminum is proving an acceptable substitute for tin in certain industries, and that its cost is now no greater than that of tin, is especially interesting and important to the United States because of the fact that while this country produces no tin, and sends large sums of money abroad for that article, it is now the world's largest producer of aluminum and able to increase indefinitely its output. Practically all of the 65 million dollars' worth of tin imported into the United States in 1917 came from Malayan Peninsula, the Dutch East Indies and Bolivia, and while most of the United States aluminum production at present is for use in aeroplanes, automobiles, helmets and cartridges, the possibility that it may be found an acceptable substitute for tin for certain general industries, and thus reduce America's dependence upon foreign countries, adds importance to the rapid development of the aluminum industry in the United States, a non-producer of tin. Nearly 500 million dollars has been sent out of the United States in the last dozen years in the purchase of tin, most of it brought from the other side of the globe.

The aluminum production of the world in 1916 is set down at approximately 140,000 tons, of which approximately 62,000 was the product of the United States; 20,000 produced in France; 16,000 in Norway, and 8,000 in Canada. Figures differ radically as to Great Britain, ranging from 4,000 to 12,000 tons production. In Switzerland the normal product is about 20,000 tons, but has been materially reduced by inability to obtain from France the bauxite from which the aluminum is produced.

Bauxite, the mineral from which most of the world's aluminum is produced, is found in many parts of the United States, though the bulk of that now used in the industry is the product of the state of Arkansas, and is turned into the finished aluminum at several great establishments in various parts of the country, the most

important being at Niagara Falls, water power being deemed an important factor in its successful production. Other works recently established are in the states of New York, Pennsylvania, New Jersey, Maryland, Tennessee, and North Carolina.

The prices of aluminum have greatly decreased with the enormous increase in production, falling from $12.00 per pound in 1870, to $2.00 in 1889, and ranging thence downward to an average of 33 cents, and then down to about 20 cents in the year preceding the war. With the greatly increased demand and increased cost of production, the average price in 1916-17 was about 33 cents per pound, the recent order of President Wilson having fixed the price for the period ending June 1, 1918, at 32 cents.

FAIR TESTS PROVE THE MERITS OF COPPER STEEL PRODUCTS.

Owing to the many different kinds of tin plate products on the market, and the keen competition which exists between the manufactures of these products, it is not an easy matter to determine what kind to use. Each manufacturer advances certain claims for his articles. How can the validity of these claims be ascertained? The answer is, by tests. The manufacturer who proclaims the greatness of his particular line, and refuses to submit it to a fair test is in a very pitiable condition. Furthermore, tinsmiths are, and they have the right to be, a bit wary as to the nature of the test. The tests are often made only by the manufacturers, and in such a way as to obtain the results unfairly. It behooves the tinsmith, therefore, to be on his guard against such tests. If he knows that certain products have been tested fairly, and have proven their superiority, then he need have no fear in purchasing those products.

Booklet, "Research on the Corrosion Resistance of Copper Steel," Issued by American Sheet and Tin Plate Company, Pittsburgh, Pennsylvania.

Fair tests are what the American Sheet and Tin Plate Company, general offices, Frick Building, Pittsburgh, Pennsylvania, claims to be the best proof of the merits of its Keystone Copper Steel products. An important fact about these tests is that the company does not ask of tinsmiths or sheet metal workers to rely entirely upon its tests. It advises them to make their own experiments. In the booklet, "Facts," which it sends upon application, hints are given on how to make these tests. Another booklet which the company sends out free of charge is the one herewith illustrated. It is called, "Research on the Corrosion Resistance of Copper Steel." It contains information which is of great interest to the tinsmith and sheet metal worker. The manufacturers claim that the Keystone Copper Steel Products are durable, resisting corrosion effectively. Further proof of their fine qualities is the fact that they were awarded the Grand Prize (the highest award) by the Panama-Pacific Exposition, San Francisco, California, for their general excellence and greatest merit. Tinsmiths and sheet metal workers will find it to their advantage to obtain the interesting literature which the company distributes. This may be procured by addressing the American Sheet and Tin Plate Company at its general offices in the Frick Building, Pittsburgh, Pennsylvania, or at its district sales offices, Chicago, Illinois; Cincinnati, Ohio; Denver, Colorado; Detroit, Michigan; New Orleans, Louisiana; New York City; Philadelphia, Pennsylvania; and St. Louis, Missouri.

PROCURES PATENT RIGHTS FOR AN ALUMINUM SOLDERING FLUX.

John William Bear and Jeremiah Franklin Thomas, Clifton Forge, Virginia, have obtained United States patent rights, under number 1,259,590, for an aluminum soldering flux described herewith:

An aluminum flux for soldering welding aluminum, comprising mercury, chalk, spirits of turpentine and olive oil.

DERIVES HELP AND INSTRUCTION.

To American Artisan and Hardware Record:

In matters pertaining to sheet metal work I find your journal invaluable to me. I get a great deal of instruction, also, from its pages with regard to general business and I derive instruction and help from the articles on warm air heaters installation.

Yours truly,

Roy A. Class.

Union, Ohio, April 8, 1918.

ROYAL VENTILATOR HAS EQUAL NECK AND OUTLET AREAS.

Prominent among the Royal line of ventilators is the type pictured herewith, with base and damper for apex of roof. The inverted cone, tapered frustums and equal neck and outlet areas are standard features of all Royal ventilators and embodied in each style. The manufacturers claim the ventilators have no cross struts or braces lying in the path of ascending air which gives the maximum efficiency for each size. All sections are built with lapped seams, giving three thicknesses of metal at joints. All edges are lapped over wire for rigidity, wear and weather resistance. They say all bracing is accomplished with malleable iron stays, so arranged as not to impede the passage of air. They state that as long as the fumes reach the point of the lower cone, they are automatically expelled before they have a chance to cool and condense. Catalog giving full particulars of their entire line of ventilators

Royal Ventilator Made by the Royal Ventilator Company, Philadelphia, Pennsylvania.

can be secured by writing to the Royal Ventilator Company, 415 Locust Street, Philadelphia, Pennsylvania.

TESTS SHOW HOW TIN MAY BE SAVED.

A long series of tests, made by a committee of experts to determine the relative value of different weights of tin coating on canned food containers, was recently completed with interesting results. The purpose was to determine whether extra heavy tin coating of cans would overcome rusting and perforation with different foods during storage. Seven different weights of coating were tested, ranging from 0.90 pound per base box of tin to 3 pounds, and these containers were used for a wide range of products, including corn, tomatoes, peas, fish, milk, apples, and cider. The most significant fact established by the investigation was that none of the difficulties encountered in 12 experiments of food in plain cans was taken care of or eliminated by heavy tin coatings.

These difficulties were perforation of cans in certain classes of food, unnecessarily large amounts of tin in contents of certain classes of foods, and discoloration of cans or contents with many classes of foods. Nor was the heaviest coating sufficient to prevent rusting under poor storage conditions, whereas with good storage conditions the slightest coating of tin was sufficient.

The conclusions of this committee have a war-time significance—by further research into causes of defects in canned goods it will be possible to overcome them otherwise than by the use of heavy tin coatings on containers, which now seem to be no remedy for such troubles. By careful storage of canned goods it might be possible immediately to conserve tin through the use of lighter coatings on some types of container.

LET CUSTOMERS SEE THE GOODS.

Encourage "looking around" among your customers. Let them take an inventory of your stock if they want to, don't pounce on them as soon as they get inside the door with a buy-or-get-out-of-here air. Let them look all they want to; they are sure to get suggestions.

IS ESSENTIAL TO METAL WORKERS.

To American Artisan and Hardware Record:

My own experience has taught me how necessary it is to keep up to date on all matters concerning the work of the tinsmith. I have found that this was easy to do with the clear and intelligent aid of American Artisan and Hardware Record. No man who works in metal can afford to be without your journal.

Yours truly,
G. F. Chapman,
Chapman and Sons.

Akron, Ohio, April 10, 1918.

Would you lend money to anyone who happened to ask you for it? Why, then, extend credit to whoever wants it. The idea is the same in either case.

ADVERTISEMENT BRINGS GOOD TINNER.

To American Artisan and Hardware Record:

There is no question that your journal is read by high class mechanics. I have secured an excellent tinsmith through my classified advertisement in your excellent paper. Respectfully yours,

E. H. Holbrook.

Charles City, Iowa, April 8, 1918.

NOTES AND QUERIES.

Hot Water Boiler.

From F. B. Lotze, 328 Plum Street, Cincinnati, Ohio.

Kindly advise who makes a cast iron hot water boiler for house heating in which gas only can be used as fuel.

Ans.—American Radiator Company, 820 South Michigan Avenue, Chicago.

Tinners' Tools.

From W. R. Drummond, 42 Coast Street, West Point, Mississippi.

Please tell me who makes tinners' bench tools.

Ans.—Berger Brothers Company, Philadelphia; Otto Bernz, Newark, New Jersey; Bertsch and Company, Cambridge City, Indiana; Dreis and Krump Manufacturing Company, 2915 South Halsted Street, Chicago; Friedley-Voshardt Company, 733 South Halsted Street, Chicago; Merchant and Evans Company, 347 North Sheldon Street, Chicago; Niagara Machine and Tool Works, Buffalo, New York; Peck, Stow and Wilcox Company, Cleveland, Ohio; and H. Weiss and Company, 20 Cliff Street, New York City.

Key Blanks.

From F. H. DeWeese, Brazil, Indiana.

Can you tell me who in Chicago manufactures key blanks?

Ans.—Corbin Cabinet Lock Company, 66 East Lake Street and Eagle Lock Company, 64 West Lake Street, both of Chicago.

Honeycomb Cores.

From Chapman and Sons, 8 South High Street, Akron, Ohio.

Will you kindly tell us where we can purchase honeycomb cores?

Ans.—Attwood Brass Works, Grand Rapids, Michigan; Monticello Auto Radiator Company, 1167 West 18th Street, Chicago; Corcoran Victor Company, Cincinnati, Ohio; and Ideal Sheet Metal Works, 213 North Morgan Street, Chicago.

Automobile Springs.

From Gates Hardware, Independence, Iowa.

Please let us know where we can get automobile springs.

Ans.—American Auto Supply Company, 1408 South Michigan Avenue, Chicago; Amsted Spring and Axle Company, Connersville, Indiana; Motor Car Spring Company, 243 West 17th Street, New York City; and Tuthill Spring Company, 760 Polk Street, Chicago.

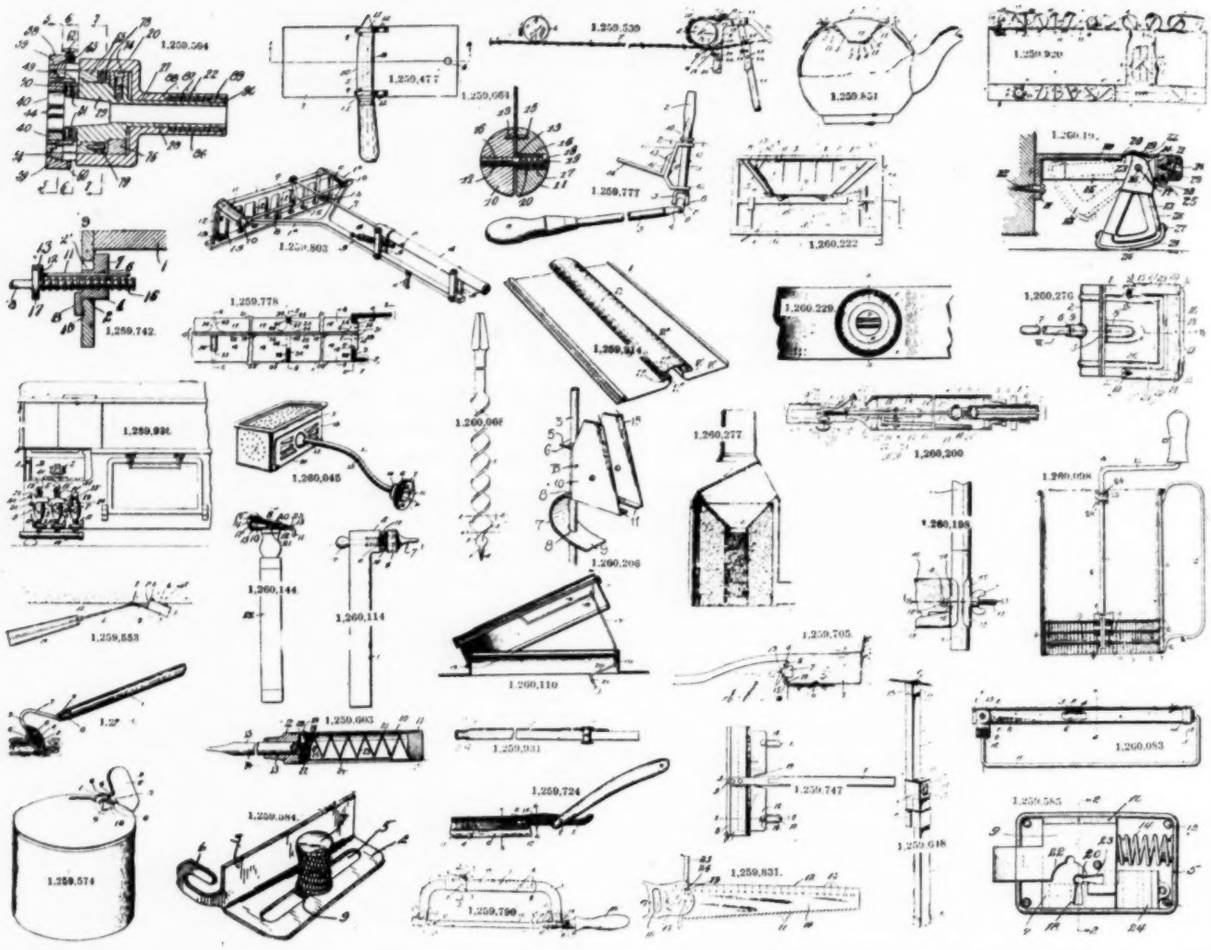
Retinning.

From Harmon and Zell, 412 Central Avenue, West Duluth, Minnesota.

Please tell us how to retin vessels such as milk cans.

Ans.—Have your metal clean, by first scouring, and then swabbing out with dilute acid. Then heat it, and with a wisp of greasy tow rub the molten tin all over. In the dipping process, all you have to do is to get the pieces quite clean, and then immerse in a tank of oil or tallow and when hot pass into the tank of molten tin.

NEW PATENTS.



1,259,477. Vegetable Slicer. Clement E. Beard, Columbiana, Ohio. Filed June 5, 1915.

1,259,504. Threading Tool. John J. Flynn, Providence, R. I. Filed July 30, 1917.

1,259,530. Gardening Implement. Albert M. Lasister, Independence, Mo. Filed July 2, 1917.

1,259,553. Mason's Jointer. Chester A. Perkins, South Bend, Ind. Filed Dec. 18, 1916.

1,259,559. Wire Stretcher. Christian M. Rud, Slayton, Minn. Filed Mar. 12, 1917.

1,259,574. Can Opener. Paul E. Williams, Texarkana, Tex. Filed May 29, 1917.

1,259,584. Clothes Line Fastener. Axel G. Anderson, Minneapolis, Minn., assignor to John August Swanson, Minneapolis, Minn. Filed Sept. 1, 1915.

1,259,585. Lock. John F. Appell, St. Louis, Mo. Filed Mar. 23, 1917.

1,259,603. Collapsible Tool. Eugene L. Conord, Elizabeth, N. J. Filed Sept. 1, 1917.

1,259,648. Clothes Line Support. John N. McGriff, Anderson, Ind. Filed Aug. 9, 1917.

1,259,664. Fish Line Sinker. Samuel H. Peters, Allentown, Pa. Filed May 8, 1915.

1,259,705. Ice Creeper. Vincent Ajello, Pittsburgh, Pa. Filed Apr. 2, 1913. Serial No. 758,455. Renewed July 24, 1917.

1,259,724. Razor. George F. Connors, Leadville, Colo. Filed Apr. 20, 1917.

1,259,742. Bench Clamp. Ora E. Hoskin, Pasadena, Cal. Filed May 24, 1916.

1,259,747. Metal Working Tool. Carl O. Johnson, Jefferson, Wis. Filed July 26, 1917.

1,259,777. Tool Stock. August Rahnn, Elizabeth, N. J. Filed Oct. 11, 1917.

1,259,778. Metallic Sash. William Roper, Philadelphia, Pa., assignor of one-half to A. L. Wurster, Haddon Heights, N. J. Filed Oct. 11, 1917.

1,259,799. Hacksaw. Laroy S. Starrett, Athol, Mass., assignor to The L. S. Starrett Company, Athol, Mass. Filed Aug. 2, 1915.

1,259,803. Self Cleaning Rake. Joel M. Thompson, Blooming Prairie, Minn. Filed May 14, 1917.

1,259,831. Saw. Ludwig Buresch, Emmett, Idaho. Filed Mar. 21, 1917.

1,259,851. Steam Check. Leroy E. Graiziger, Mauston, Wis. Filed Nov. 29, 1916.

1,259,914. Self Ventilating Shingle. Edward Arthur Seward and Howard W. Key, Columbus, Ga. Filed Aug. 5, 1916.

1,259,920. Miter Box. Henry Simon, Laguna Beach, Cal. Filed Oct. 12, 1916.

1,259,931. Safety Razor. John Herbert Toal, Chicago, Ill. Filed May 18, 1916.

1,259,936. Gas Burner With Gas and Air Controlling Means. Eugene W. Vest, St. Louis, Missouri. Filed May 25, 1917.

1,260,045. Soap Holder and Support. Ernest G. Rautzenberg, Philadelphia, Pa. Filed May 15, 1917.

1,260,068. Auger. James Milton Sanders, Hillsboro, Ohio. Filed Jan. 5, 1917.

1,260,083. Clothes Hanger. George A. Smith, Baltimore, Md. Filed Sept. 29, 1916.

1,260,098. Sifter. Jerena E. Trice, Wichita, Kans. Filed June 30, 1917.

1,260,110. Adjusting Means for Skylights, &c. Charles O. Whitnell, Kingsley, Iowa. Continuation in part of application. Filed May 13, 1916. This application filed Oct. 23, 1916.

1,260,114. Bit-Stock. Justice W. Wood, Highland Park, Mich. Filed July 26, 1917.

1,260,144. Safety-Razor. Osroe A. Clark, Newark, N. J. Filed Dec. 7, 1916.

1,260,192. Door-Stop. George J. Hall, Boston, Mass. Filed July 3, 1917.

1,260,198. Saw-Handle. Thomas Beary Holmes, Charleston, Miss. Filed Feb. 1, 1917.

1,260,200. Self-Heating Soldering-Iron. Lloyd S. Johnson, Dayton, Ohio. Filed Aug. 3, 1917.

1,260,206. Clothes-Drier. Arthur G. Kent, Rochester, N. Y. Filed July 23, 1917.

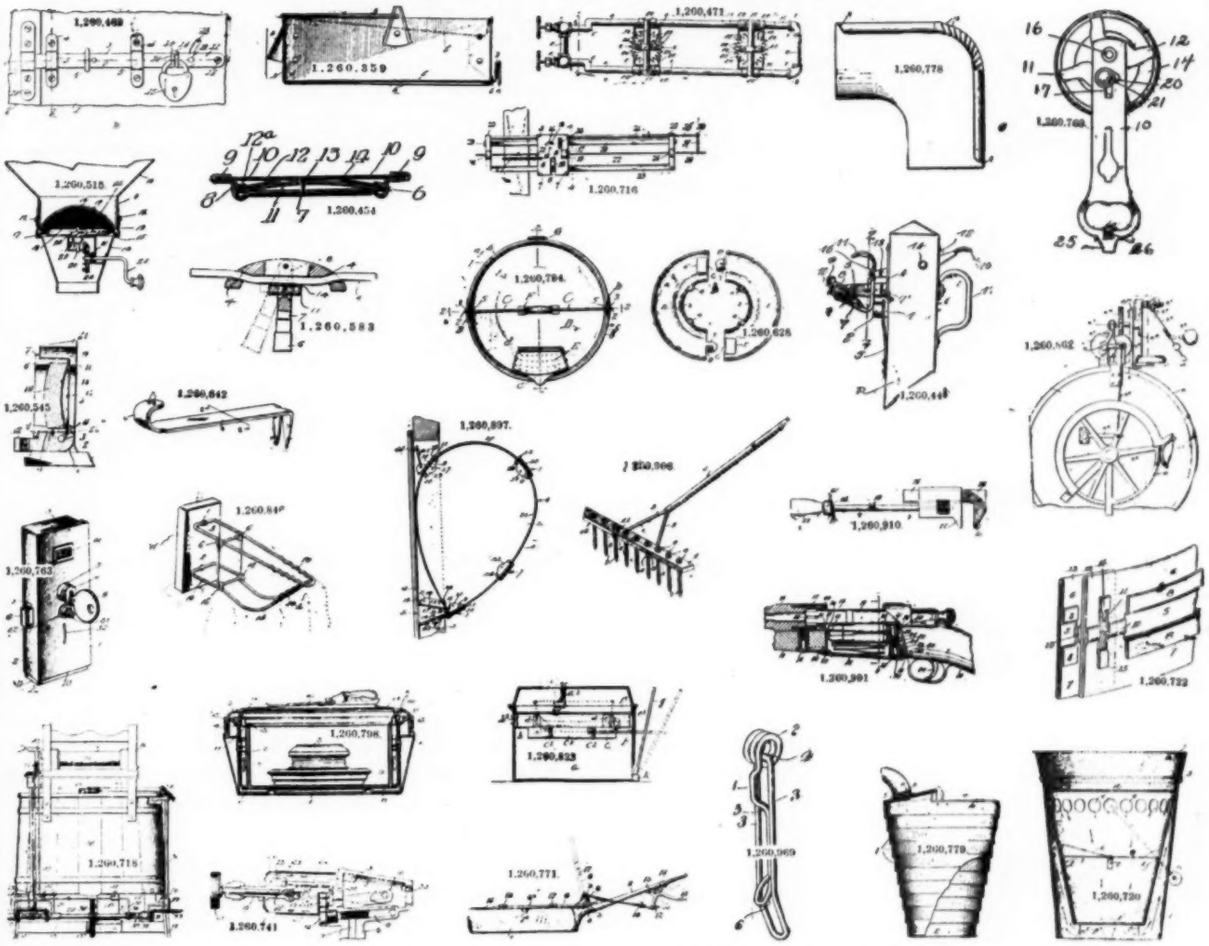
1,260,222. Ash-Sifter. William McCormick, Brooklyn, N. Y. Filed Mar. 2, 1917.

1,260,229. Spirit-Level. Emil A. Marx, William H. Lutes, Harold G. Sweet, and Frank L. Hand, Royal Center, Ind. Filed July 20, 1916.

1,260,276. Snow-Shovel and Ice-Chopper. William H. Miller, Crawfordsville, Ind., assignor to Miller Vehicle Heater Company, Crawfordsville, Ind. Filed Nov. 9, 1916.

1,260,277. Rain-Spout Filter. Justine W. Ranney, Maynard, Iowa, assignor of one-half to Elial M. Payne and one-half to Charlotte A. Ranney, Maynard, Iowa. Filed Nov. 28, 1917.

NEW PATENTS.



1,260,359. Combined Ash Pan and Sifter. Morris B. Frank, Chicago, Ill. Filed April 8, 1916.

1,260,444. Gate Latch. J. Portesi, Los Angeles, Cal. Filed.

1,260,454. Slide-Rule. George W. Richardson, Chicago, Ill. Filed April 4, 1916.

1,260,469. Latch for Gates, Barn-Doors, Etc. Archibald Smith, Robinsonville, Miss. Filed July 7, 1916.

1,260,471. Coal-Oil Burner. Philip H. Spaulding, Hinsdale, Ill. Filed May 14, 1917.

1,260,515. Flour-Sifter. Frank Coss, Greencastle, Ind. Filed May 14, 1917.

1,260,545. Sight for Firearms. Richard T. Jackson, Easton, Pa. Filed July 22, 1916.

1,260,583. Clothes-Line Puller. John G. Schwartz, New York, N. Y. Filed June 13, 1917.

1,260,628. Split Pipe-Collar. Frederick Biedenmeister, New York, N. Y., assignor to Good Manufacturing Company, New York, N. Y. Filed March 7, 1917.

1,260,642. Wire-Stripping Tool. Bernard J. Chia, East Orange, N. J., assignor to Harry S. Neats, East Orange, N. J. Filed March 14, 1917.

1,260,716. Wire Stretcher. Fay Sayre, Pond, Cal. Filed November 6, 1917.

1,260,718. Gearing for Washing Machines. William J. Schoonover, Belvidere, Ill. Original application filed November 14, 1911. Renewed May 7, 1917. Divided and this application filed August 6, 1917.

1,260,720. Culinary Vessel. Fred A. Shattuck, Sherburne, N. Y. Filed May 18, 1916.

1,260,722. Furnace-Casing Ring. Samuel C. Shipman, York, Nebr. Filed May 14, 1915.

1,260,741. Torch. Arthur J. Archambault, Chicago, Ill. Filed July 26, 1917.

1,260,763. Lock. Don D. Frix, Chicago, Ill. Filed May 11, 1916.

1,260,769. Fruit Jar Cover Clamp. Emery Eastman Hardy, Bayside, N. Y. Filed Otcober 16, 1916.

1,260,771. Frying Pan. John Hartman, Bozeman, Mont. Filed August 1, 1916.

1,260,778. Corner Turn for Gutters. William H. Klauer, Dubuque, Iowa. Filed October 9, 1915.

1,260,779. Collapsible Bucket. Carl Herbert Koos, Davenport, Iowa. Filed July 24, 1916.

1,260,794. Cooking Utensil. Herman A. Paquette, Chicago, Ill., assignor of one-third to John W. Olson, Chicago, Ill., one-third to Otto G. Ryden, Evanston, Ill., and one-third to Ira L. Harvey, Chicago, Ill. Filed September 11, 1916.

1,260,798. Portable Cooking Apparatus. Isaac C. Popper, New York, N. Y. Filed November 2, 1917.

1,260,823. Ash Sifter. Adolph Singelyn, Detroit, Mich. Filed June 14, 1917.

1,260,846. Clothes Hook. Glen Windle, Chardon, Kans. Filed May 29, 1917.

1,260,862. Indicator for Automatically Controlling Clothes Washing and Drying. Gottlob Binder, Philadelphia, Pa. Filed March 29, 1917.

1,260,897. Fly-Trap. Joshua A. Hardy, Emporia, Kans. Filed September 6, 1917.

1,260,906. Rake. Jordan Jarrett, Ripley, Tenn., assignor of one-half to James E. Graves, Ripley, Tenn. Filed March 7, 1916. Renewed August 17, 1917.

1,260,910. Wrench. John T. Ketcherside, Cantwell, Mo. Filed December 20, 1917.

1,260,969. Clothes-Pin. Marion E. Cramer, Arlington, Ohio, Filed April 8, 1916.

1,260,991. Magazine for Firearms. Grant Hammond, Hartford, Conn., assignor to Dalton Arms Corporation, New York, N. Y. Substitute for application, filed July 21, 1915. This application filed November 1, 1915.

WEEKLY REPORT OF TRADE AND THE MARKETS

PRODIGIOUS CONSUMPTION OF STEEL IS FORESHADOWED IN THE ARTILLERY PROGRAM.

Plans of the United States Government for the prompt construction of immense gun works foreshadow greatly increased consumption of steel in the not distant future. A comprehensive program of artillery manufacture, with all that such manufacture implies, has been completed in minute detail, including the production of numerous sixteen inch howitzers mounted on trucks. It is reported that their manufacture will be undertaken by one of the leading interests not at present engaged in this class of work.

It is encouraging to learn that the first week of our country's second year in the war is thus marked by the clearest indications yet given that American steel output will at length be so far taken up by the Government and its allies as to leave little for so-called ordinary uses either at home or abroad.

The vast enlargement of the nation's offensive preparations that has come in the fortnight already has stirred the machine tool trade. Great activity is looked for also from the doubling of the output of various shell plants by Government order, and the call for large numbers of motor trucks to be sent at once to France.

There is considerable surprise in the trade at the distress calls from Washington, charging the steel producers with responsibility for delays in shipbuilding. Investigation developed the existence of a temporary shortage in necessary supplies which in the end was attributed to transportation conditions, and not to neglect of the steel producers.

It is somewhat difficult to explain the outcry, for all indications in the steel trade point to an overproduction of the steel products that will be required in the shipbuilding program. This condition extends even to plates, in the production of which the capacity of the country, prior to extensions, was limited. At the current rate of production, the plate turned out in the next six months will exceed all possible demands, so the alarms sent out crying a shortage of steel were unnecessary, it is contended.

The remarkable improvement during March in conditions affecting the steel trade is reflected in the experience of one of the leading producers in increased shipments. The shipments of this producer equalled his aggregate shipments in January and February. About 10 per cent of the shipments were from stock, which is regarded as one of the healthiest signs so far developed. In addition to loadings at the mills the railroads delivered hundreds of cars which had been buried in their yards for months. The steel needed at the shipyards may have been loaded on some of these cars.

STEEL.

The opinion is expressed by some sales agents in the field that in view of the rate at which their customers are now receiving steel it may not be many weeks until they find themselves well supplied, and call upon mills to reduce shipments. This, of course, would apply only to certain descriptions of material. The commercial demand for some descriptions of finished steel has decreased more than that for others, while, on the other hand, the war demand runs strongly to certain forms of steel, hence each individual product presents a case of its own. Seamless tubing may be extremely scarce and wire nails very plentiful.

Forecasts of the earnings of the leading interest for the quarter are in order, and have not been neglected. The forecasts are varied, but based on surer ground than others have been. Increased shipments lead to the conclusion that the earnings for March will equal the earnings of both January and February, and the total earnings for the quarter are estimated at more than $40,000,000, after the payment of all taxes. This compares with earnings of $60,000,000 in the December quarter. A marked decrease in unfilled orders on the books of the leading interest at the end of March, as compared with the end of February, is expected.

COPPER.

Nothing of importance occurred in the copper market during the week. As far as can be determined from present indications, the situation is being comfortably and ably taken care of by the Copper Committee; and if there are any complaints, they do not find expression in the general market. Reports by the various copper producers that are being published do not present an argument for higher prices. The copper producing industries seem to be quite prosperous, which is more than can be said for some other metal industries, spelter for instance. Production is increasing largely as result of the patriotic efforts being made to get out all the copper possible.

TIN.

Spot tin continues scarce; and while the deliveries of tin into consumption during March, with 5,151 tons broke all records, the fact remains that spot tin of any grade continues difficult to obtain and that no offerings are in the market as these large deliveries indicate a big increase in the demand for tin during the past month and also demonstrate that despite the prohibited shipments from London, deliveries direct from the Far East to the Pacific coast have been larger than in any month during the past years. There is no doubt that concerns working on war contracts

receive without delay the tin they need, but independent manufacturers in the commercial line of business still have difficulty to get supplies.

LEAD.

During the week, offers to sell western shipments of lead at below 6.90 cents St. Louis met with an indifferent response from buyers. The domestic market is quiet. The Government has not fixed a price on lead and its own requirements are being settled on the monthly average in St. Louis. There has been some increase in the export of lead to England. The opinion is prevalent in the trade, however, that the greater part, if not all, of the English business has been filled with Mexican lead which was refined here in bond. All agree that the amount of domestic lead which has been sold for export has been too small to be worth discussing.

SOLDER.

There have been no changes in the market for solder, the prices remaining as follows: XXX Guaranteed, ½&½, 48½ cents; Commercial, ½&½, 45 cents; and Number 1 Plumbers', 41½ cents.

SPELTER.

The situation in the spelter market remains unaltered. There is an active competition for orders for April prime Western on which there are quotations at 6.85c to 6.90c St. Louis, but orders for futures are being turned down unless buyers will pay a premium over the prompt price. Brass special holds steady at 7.25c St. Louis.

It is learned that the producer of sheet zinc who stood out for a long time against complying with the Government order which limited the price of sheet zinc to 15.00c base, has finally agreed to sell at this price and has notified its customers accordingly. Any domestic sales made since February 14th at any higher price were a violation of the Government ruling and buyers should see that they receive a proper rebate.

SHEETS.

Government orders continue to take precedence in the production and delivery of sheets. Owing to the heavy bookings which characterize this industry, buyers experience considerable trouble in securing quotations from sheet manufacturers for early delivery.

TIN PLATE.

The situation in the tin plate market gives evidence of appreciable improvement with reference to the matter of transportation. Production is going forward at a satisfying rate of progress and supplies are expected to be distributed with more uniform regularity in the immediate future.

OLD METALS.

Business in the Chicago market is still quiet despite the fact that scrap prices have been revised and everything set for a three months' run. Consumers do not seem at all anxious and are not rushing in to buy. Assuming that there will be scrap available and enough to go around when they are ready for it, there is no reason why they should hurry. Prices won't be higher for three months to come and if there is any change, it is bound to be in their favor.

Dealers, on the other hand, are not holding back on material in hand since, with prices up to the limit on so many grades, there is nothing in prospect to encourage waiting for a better market. While they are willing to sell, their wishes in this respect must wait for realization on the mood of the buyer.

News of the adverse decision respecting payment of commissions, although in a measure anticipated, is none the less a distinct disappointment to the trade: for upon that proposition hung the hope of dealers and brokers of squeezing out a fair margin of profit. It is their contention that with mixed iron around $21.00 net, the prices fixed do not provide a sufficient margin for the working up of scrap into marketable form. There is, moreover, in their opinion, little prospect of cheaper mixed iron for the reason that the collectors of country scrap would not find it profitable to continue operations at a lower figure owing to the high prices asked by original holders of both factory and agricultural scrap and the higher cost of gathering it.

Efforts are being made to get mills to join in a petition asking for a reconsideration of the commission question with a view to securing a restoration of the commission. While some of the western mills are said to be in favor of the proposition the disposition to do so is not as general as among eastern mills, due perhaps to the fact that the western mills have as a rule been able to get the material required without paying commission.

Wholesale dealers' quotations in the Chicago district, which may be considered nominal, are as follows: Old steel axles, $41.52; old iron axles, $41.52; steel springs, $30.36; Number 1 wrought iron, $30.36; Number 1 cast iron, $27.00 to $27.50, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 19 cents; light brass, 11¼ cents; lead, 5½ cents; zinc, 5 cents; cast aluminum, 21 cents.

PIG IRON.

No slackening has developed in the demand for steelmaking grades of iron and the scarcity of available tonnage is severely felt by consumers working on Government contracts. Under this condition Government regulation of pig iron distribution is becoming a market factor. Numerous consumers on Government work will receive tonnage by allocation of the director of steel supply which otherwise would go elsewhere or could not be delivered.

By far the most encouraging development of the month was the marked increase in iron production. The average daily production jumped from about 82,000 tons in February to more than 103,000 tons in March. The aggregate production was almost 1,000,000 tons more than in February. This favorable development indicates an early improvement in the supply of semi-finished steel, which is sorely needed by some of the producers engaged in the manufacture of war materials.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS.

PIG IRON

Basic	$33 00
Northern Fdy., No. 2	33 00
Southern Fdy., No. 2	37 50
Lake Sup. Charcoal	37 50
Malleable	33 50

FIRST QUALITY BRIGHT TIN PLATES.

		Per Box
IC	14x20	$16 20
IX	14x20	18 15
IXX	14x20	20 10
IXXX	14x20	21 55
IXXXX	14x20	23 00
IC	20x28	32 40
IX	20x28	36 30
IXX	20x28	40 20
IXXX	20x28	43 10
IXXXX	20x28	46 00

COKE PLATES.

Cokes, 180 lbs	20x28	$18 30
Cokes, 200 lbs	20x28	18 50
Cokes, 214 lbs	IC 20x28	18 90
Cokes, 270 lbs	IX 20x28	20 50

BLUE ANNEALED SHEETS.

No. 10 per 100 lbs.	$5 45
No. 12 per 100 lbs.	5 50
No. 14 per 100 lbs.	5 55
No. 16 per 100 lbs.	5 65

ONE PASS COLD ROLLED BLACK.

No. 18-20 per 100 lbs.	$6 25
No. 22-24 per 100 lbs.	6 30
No. 26 per 100 lbs.	6 35
No. 27 per 100 lbs.	6 40
No. 28 per 100 lbs.	6 45

GALVANIZED.

No. 16 per 100 lbs.	$6 95
No. 18-20 per 100 lbs.	7 10
No. 22-24 per 100 lbs.	7 25
No. 26 per 100 lbs.	7 40
No. 27 per 100 lbs.	7 50
No. 28 per 100 lbs.	7 70
No. 30 per 100 lbs.	8 20

POLISHED SHEET STEEL.

No. 24 per 100 lbs.	$9 80
No. 26 per 100 lbs.	9 85
No. 27 per 100 lbs.	9 90
No. 28 per 100 lbs.	10 00

SMOOTH SHEET STEEL.

	Per 100 lbs.
Wood's Smooth No. 20	$9 25
" " No. 22-24	9 30
" " No. 25-26	9 35
" " No. 27	9 40
" " No. 28	9 50

PATENT PLANISHED SHEET IRON.

Patent Planished Sheet Iron, 100 lbs., base No. 28 ..... $12 75

SOLDER.

XXX Guaranteed ½ & ½ per lb.	50c
Commercial ½ & ½ "	48 ½c
No. 1 Plumbers "	46 ½c

SPELTER.

In Slabs 8½c

SHEET ZINC.

Cask lots	$22 00
Less than Cask lots	$22 50 to $23 00

COPPER.

Copper sheet, base 31½c

LEAD.

American Pig	$7 75
Bar	8 25

Sheet.

Full coils per 100 lbs.	$10 25
Cut coils per 100 lbs.	10 50

TIN.

Pig tin	Nominal
Bar tin	Nominal

HARDWARE.

ADZES.

Carpenters'.
Plumbs 15%

Coopers'.
Barton's 15%
White's 15%

Railroad.
Plumbs 20%

AMMUNITION.

Caps, Percussion—per 1,000.
F. L., Waterproof, 1-10s 32%
G. D 32%
Musket 32%

Shells, Loaded—
Loaded with Black Powder 32%
Loaded with Smokeless Powder, medium grades 32%
Loaded with Smokeless Powder, high grade 32%

Winchester:
Smokeless Repeater Grade 32%
Smokeless Leader Grade 32%
Black Powder 32%

U. M. C.
Nitro Club 32%
Arrow 32%
New Club 32%

Gun Wads—per 1000

Winchester 7-8 gauge	$2 25
" 9-10 gauge	1 94
" 11-28 gauge	1 63

Powder.	Each
DuPont's Sporting, kegs	11 25
" " ½ kegs	5 90
" " ¼ kegs	3 10
DuPont's Canisters, 1-lb	56
" " ½-lb	32
" " ¼-lb	22
" Smokeless drums	43 50
" " kegs	22 00
" " ½-kegs	11 25
" " ¼-kegs	5 75
" " canisters	1 00
L. & R. Orange, Extra Sporting kegs	11 25
L. & R. Orange, Extra Sporting ½-kegs	5 90
L. & R. Orange, Extra Sporting ¼-keg	1 30
L. & R. Orange, Extra Sporting lb. canisters	56
L. & R. Orange, Extra Sporting ½-lb. canisters	32
L. & R. Orange, Extra Sporting ¼-lb. canisters	22
Hercules "E. C." and "Infallible" 50 can drums	43 50
Hercules "E. C." kegs	22 00
Hercules "E. C." ½-kegs	11 25
Hercules "Infallible," 25 can drums	22 00
Hercules "Infallible," 10 can drums	9 00
Hercules "E.C." ½-kegs	5 75
Hercules "E.C." and "Infallible" canisters	1 00
Hercules W. A. .30 Cal. Rifle, canisters	1 25
Hercules Lightning Rifle, canisters	1 25
Hercules Sharpshooter Rifle, canisters	1 25
Hercules Unique Rifle, canisters	1 50
Hercules Bullseye Revolver, canisters	1 00

ANVILS.

Trenton, 70 to 80 lbs. ..... 9½c per lb.
Trenton, 81 to 150 lbs. ..... 9½c per lb.

ASBESTOS.

Board and Paper, up to ⅛" .. 17c per lb.
Thicker ... 18c per lb.

AUGERS.

Boring Machine 60%
Irwin's ..... Nets
Carpenter's Nut ..... 50&10%

Hollow.
Bonney's ..... per doz. $30 00
Stearns, No. 3 ..... " " 60 00

Post Hole.
Digwell, 8-inch ..... per doz. $12 50
Iwan's Post Hole and Well ... Nets.
Vaughan's, 4 to 9-in. ... per doz. 10 25

Ship.
Ford's, with or without screw ... 15%
Snell's " " " " 15%

AWLS.

Brad.
No. 3 Handled ..... per doz. $0 50
No. 1050 Handled ..... " 1 05
Shouldered, assorted 1 to 4, ... per gro. 4 00
Patent asst'd, 1 to 4 .. " 85

Harness.
Common ..... " 1 05
Patent ..... " 1 00

Peg.
Shouldered ..... " 1 60
Patent ..... " 75

Scratch.
No. 1 handled ..... per doz. 65
No. IS, socket han'ld. " 1 35
No. 7 Stanley ..... " 1 95

AXES.

Boy's Handled.
Niagara ..... " 9 25

Broad.
Plumbs, West, Pat ..... List
" Can. Pat $53 00
" Firemen's (handled). ..... per doz. $19 00

Single Bitted (handled).
Warren Silver Steel 15 50
Warren Blue Finished 15 00
Matchless Red Pole 14 00

Single Bitted (without handles).
Warren Silver Steel 13 50
Warren Blue Finished 12 50
Matchless Red Pole 11 50

Double Bitted (without handles).
Warren's Natl. Blue, 3½ to 4½ lb ..... per doz. 17 50
The above prices on axes of 3 to 4 lbs. are the base prices.
3½ to 4½ lbs. advance 25c.
4 to 5 lbs. advance 50c.
4½ to 5½ lbs. advance 75c.

BAGS, PAPER NAIL.

Pounds	10	16	20	25
Per 1,000	$5 00	6 50	7 50	9 00

BALANCES, SPRING.

Pelouze 20%

BARS, CROW.

Pinch or Wedge Point, per cwt .. $8 00

BASKETS.

Clothes.
Small Willow ..... per doz. 10 00
Medium " ..... " 11 50
Large " ..... " 13 50

Galvanized Steel.	½ bu.	1 bu.	1½ bu.
Per doz.	$8 00	$11 50	15 00

BEATERS.

Carpet.	Per doz.
No. 17 Tinned Spring Wire	$ 1 10
No. 18 Spring Wire coppered	1 40
No. 10 Preston	1 10

Egg.	Per doz.
No. 50 Imp. Dover	$ 1 10
No. 102 " " tinned	1 35
No. 150 " " hotel	2 10
No. 10 Heavy hotel tinned	2 10
No. 13 " " "	3 30
No. 15 " " "	3 60
No. 18 " " "	4 50

BELLOWS.

Blacksmiths' 40%

Hand.

	8	9	10	12
Per doz.	$8 00	9 00	10 00	12 75

Moulders'.
12-inch ..... Per doz. 15 00

BELLS.

Call.
3-inch Nickeled Rotary Bell, Bronzed base ..... per doz. $5 00

Cow.
High Grade 60%
Kentucky 35%

Door.	Per doz.
New Departure Automatic	$7 50
Rotary.	
3 -in. Old Copper Bell	5 00
3 -in. Old Copper Bell, fancy	7 00
3 -in. Nickeled Steel Bell	5 50
3½-in. Nickeled Steel Bell	6 00

Hand.
Hand Bells, polished 15%
White Metal 15%
Nickel Plated 10%
Swiss 15%
Silver Chime 10%

Miscellaneous.
Church and School. steel alloys ... 30%

Farm, lbs.	40	50	75	100
Each	$2 25	3 00	4 00	5 50

BEVELS, TEE

Stanley's, rosewood handle, new list ..... Nets
Stanley's iron handle ..... Nets

BINDING, OILCLOTH.

Zinced 60%
Brass ..... 40&10%
Brass, plated ..... 60&10%

BITS.

Auger.
Jenning's Pattern 50%
Ford's Car and Machine 15%
Ford's Ship 30%
Irwin 35%
Russell Jenning's 30%
Clark's Expansive ..... 50&5%
Steer's " Small list, $22 00 .. 25%
" " Large " $26 00 .. 25%
Irwin Car ..... 35&10%
Ford's Ship Auger pattern Car 15%

Center 10%

Countersink.

No. 18 Wheeler's	per doz.	$1 80
No. 20	"	2 40
American Snailhead	"	1 10
" Rose	"	1 30
" Flat	"	1 20
Mahew's Flat	"	1 00
" Snail	"	1 50

Dowell.
Russell Jennings 30%

Gimlet.

Standard Double Cut		25%
German Pattern	per doz.	$0 75
German	"	80
Gouge	"	80
Spoon	"	15%
Countersink	"	1 30

Reamer.

Jenning's Square	"	2 50
Standard Square	"	2 00
American Octagon	"	1 75

Screw Driver.

No. 7 Common	"	75
No. 1 Triumph	"	1 25